APPENDIX Q

Safety Analysis

Conducted by Strand Associates Inc.

Strand Associates, Inc.®
910 West Wingra Drive
Madison, WI 53715
(P) 608-251-4843
(F) 608-251-8655

September 18, 2019

Mr. Bryan Lipke, P.E.
Wisconsin Department of Transportation, Northeast Region
944 Van Der Perren Way
Green Bay, WI 54304

Re: I-41 Traffic and Engineering Study: Interactive Highway Safety Design Model (IHSDM) Analysis

Dear Bryan,

Enclosed is a copy of the I-41 IHSDM Analysis Technical Memorandum. Please distribute to the appropriate parties and call me with any questions at (608) 251-4843. Thank you for the opportunity to assist on this effort.

Sincerely,

STRAND ASSOCIATES, INC.®

Joseph M. Urban, P.E.

Enclosure: Report

c: Adam Walter, P.E., Strand Associates, Inc.®

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Technical Memorandum for

Wisconsin Department of Transportation–Northeast Region

I-41 Interactive Highway Safety Design Model Analysis



Prepared by:

STRAND ASSOCIATES, INC.®
910 West Wingra Drive
Madison, WI 53715
www.strand.com

September 2019

STRAND ASSOCIATES®

TABLE OF CONTENTS

Page No.
or Following

I-41 INTERACTIVE HIGHWAY SAFETY DESIGN MODEL ANALYSIS

SECTION 1–INTRODUCTION AND BACKGROUND

1.01 Introduction and Background 1-1

SECTION 2–OVERVIEW OF ALTERNATIVES CONSIDERED

2.01 Overview of Alternatives Considered 2-1

SECTION 3–DATA RESOURCES

3.01 Data Resources 3-1

SECTION 4–ANALYSIS METHODOLOGY

4.01 Analysis Methodology 4-1

SECTION 5–ALTERNATIVES ANALYSIS METHODOLOGY

5.01 Alternatives Analysis Methodology 5-1

SECTION 6–MEETINGS, REVIEWS, AND COORDINATION

6.01 Meetings, Reviews, and Coordination 6-1

SECTION 7–ANALYSIS AND SOFTWARE LIMITATIONS

7.01 Analysis and Software Limitations 7-1

SECTION 8–PRELIMINARY RESULTS

8.01 Preliminary Results 8-1

SECTION 9–SUMMARY

9.01 Summary 9-1

TABLE OF CONTENTS Continued

Page No.
or Following

TABLES

4.01-1	Urban and Rural Area Type Settings	4-4
4.01-2	Description of Existing Conditions Geometric Input Spreadsheets	4-8
4.01-3	Existing Presence of Median Barrier along I-41	4-13
5.01-1	No-Build AADT Volumes Along I-41	5-1
5.01-2	No-Build High-Volume Hour Proportions Along I-41	5-2
5.01-3	Short-Term Build Alternative–Mainline Merge Details	5-5
5.01-4	Short-Term Build Alternative Traffic Volume Sensitivity Test	5-7
5.01-5	Crossroad and Ramp Terminal Intersection Coding Status	5-14
5.01-6	No-Build and Build (+1 Lane) Two-Way AADT Volume Comparison	5-16
5.01-7	No-Build and Build (+1 Lane) High-Volume Hour Proportion Comparison	5-16
8.01-1	Analysis Segments for Long-Term Build Alternative	8-3
8.01-2	Existing Conditions Analysis Results	8-5
8.01-3	Expected Crash Results–Future No-Build vs. Existing Conditions	8-8
8.01-4	Initial Short-Term Build Alternative Results for Mainline Merges	8-10
8.01-5	Final Short-Term Build Alternative Results for Mainline Merges	8-10
8.01-6	Short-Term Build Alternative Results: Merge Coding Details	8-11
8.01-7	Long-Term Build Alternative Mainline Crash Prediction Results	8-14
8.01-8	Long-Term Build Alternative: Median Barrier Sensitivity Test Results	8-15

FIGURES

1.01-1	Study Limits for I-41 Safety Analysis	1-1
2.01-1	Overview of Short-Term Build Alternative	2-1
2.0-2	Overview of Long-Term Build Alternative	2-2
2.01-3	General Cross Section for Long-Term Build Alternative	2-3
4.01-1	Example of Aerial with Freeway Centerline Stationing	4-3
4.0-2	I-41 Mainline Typical Section Graphics Overview	4-9
4.01-3	Example I-41 Typical Sections for Existing Conditions (Six-Lane and Four-Lane)	4-10
4.01-4	Example I-41 Typical Sections for Existing Conditions (Constrained Bridge)	4-10
4.01-5	Examples of Type A and Type B Weaving Sections	4-11
4.01-6	HCM 2000 Definitions of Weaving Sections	4-11
4.0-17	I-41 Existing Rumble Strip Patterns	4-12
4.01-8	Existing Conditions Median Barrier Input Development Example	4-13
4.01-9	I-41 Traffic Volume Segmentation Example	4-14
4.01-10	I-41 Mainline Count Sites with Weekday Traffic Volume Data	4-15
4.01-11	Application of Weekend Traffic Volume Data	4-16
4.01-12	High-Volume Hour Proportion Sample Calculation	4-17

TABLE OF CONTENTS Continued

		Page No. or Following
5.01-1	Overview of Short-Term Build Alternative	5-4
5.01-2	Overview of Long-Term Build Alternative	5-9
5.01-3	General Cross Section for Long-Term Build Alternative	5-10
5.01-4	General Cross Section for Long-Term Build Alternative at Constrained Location	5-10
5.01-5	Geometric CMF Comparison for Representative Capacity Expansion Segment	5-11
5.01-6	Relative Difference of CMFs for Representative Capacity Expansion Segment	5-12
5.01-7	Traffic Data CMF Comparison for Representative Capacity Expansion Segment	5-17
8.01-1	Analysis Segments for Long-Term Build Alternative	8-2
8.01-2	Existing Conditions Analysis Results: Total Crashes	8-6
8.01-3	Existing Conditions Analysis Results: FI Crashes	8-7
8.01-4	Short-Term Build Alternative Safety Analysis Summary	8-9

ATTACHMENTS

ATTACHMENT A–EXISTING CONDITIONS CENTERLINE ALIGNMENT PLAN SHEETS
ATTACHMENT B1–EXISTING CONDITIONS GEOMETRIC INPUTS: INTERCHANGES AND RAMPS
ATTACHMENT B2–EXISTING CONDITIONS GEOMETRIC INPUTS: MAINLINE
ATTACHMENT C–EXISTING CONDITIONS TYPICAL SECTIONS
ATTACHMENT D–EXISTING CONDITIONS TRAFFIC INPUTS
ATTACHMENT E–EXISTING CONDITIONS HIGH-VOLUME HOUR WORKSHEETS
ATTACHMENT F–FUTURE NO-BUILD TRAFFIC INPUTS
ATTACHMENT G–FUTURE NO-BUILD HIGH-VOLUME HOUR WORKSHEETS
ATTACHMENT H1–SHORT-TERM BUILD ALTERNATIVE: MAINLINE MERGE REVISIONS
ATTACHMENT H2–SHORT-TERM BUILD ALTERNATIVE: HIGH-VOLUME HOUR WORKSHEETS
ATTACHMENT I–LONG-TERM BUILD ALTERNATIVE GEOMETRIC INPUTS
ATTACHMENT J–LONG-TERM BUILD ALTERNATIVE TRAFFIC INPUTS
ATTACHMENT K–LONG-TERM BUILD ALTERNATIVE HIGH-VOLUME HOUR WORKSHEETS
ATTACHMENT L1–INPUT COMPARISON: NO-BUILD AND LONG-TERM BUILD ALTERNATIVES
ATTACHMENT L2–INTERCHANGE AND ARTERIAL DAILY TRAFFIC VOLUME SUMMARY
ATTACHMENT M–DECISION LOG DOCUMENT
ATTACHMENT N1–WISDOT CORRESPONDENCE
ATTACHMENT N2–IHSDM SUPPORT CORRESPONDENCE
ATTACHMENT O–FUTURE NO-BUILD ALTERNATIVE CRASH PREDICTION RESULTS
ATTACHMENT P–SHORT-TERM BUILD ALTERNATIVE CRASH PREDICTION RESULTS
ATTACHMENT Q–LONG-TERM BUILD ALTERNATIVE CRASH PREDICTION RESULTS

SECTION 1
INTRODUCTION AND BACKGROUND

1.01 INTRODUCTION AND BACKGROUND

Strand Associates, Inc.® (Strand) was retained by the Wisconsin Department of Transportation (WisDOT) in February 2019 to perform predictive safety analysis along Interstate 41 (I-41) from the City of Appleton to the City of De Pere as part of the I-41 Traffic and Engineering Study. This technical memorandum summarizes the predictive safety analysis methodology and results used to assess the relative safety performance of short-term and long-term alternatives along the I-41 corridor. The predictive safety analysis was performed using Interactive Highway Safety Design Model (IHSDM) software.

The study limits of the I-41 safety analysis are shown in Figure 1.01-1. The southern limit is approximately 0.7 miles south County Trunk Highway (CTH) BB and the northern limit is approximately 0.3 miles north of Orange Lane (or approximately 0.75 miles south of CTH F). There are 12 interchanges included within the study limits, which are referred to by their CTH or State Trunk Highway (STH) designations for the purposes of this memorandum.

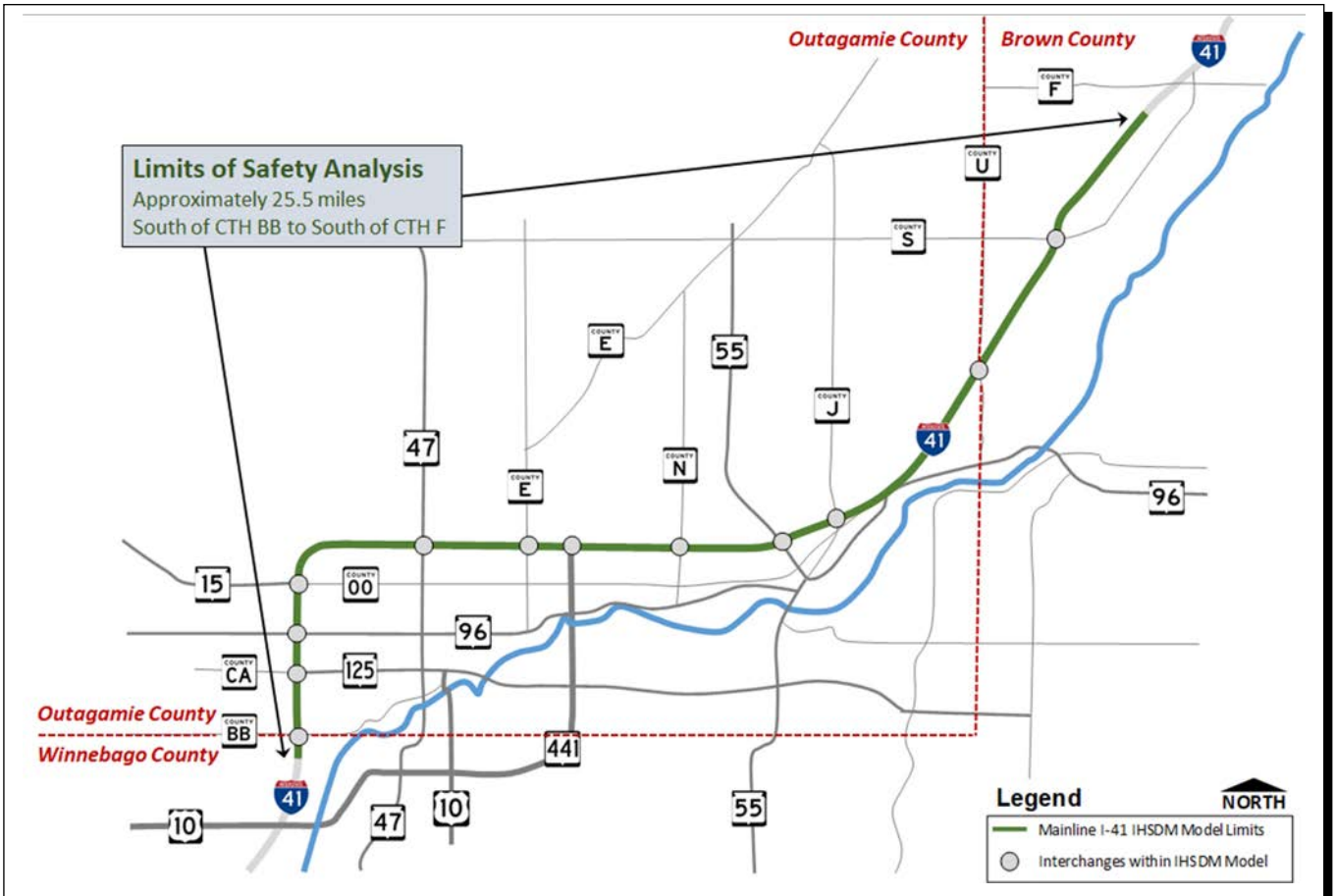


Figure 1.01-1 Study Limits for I-41 Safety Analysis

From south of CTH BB to STH 15 (approximately 3.5 miles), I-41 has six basic freeway lanes, or three in each direction. From STH 15 to the northern limit, I-41 has four basic freeway lanes, or two in each direction. The majority of the study corridor is included within Outagamie County, with less than 1 mile in

Winnebago County and approximately 6 miles in Brown County. The posted speed along I-41 is 70 miles per hour (mph) throughout the corridor.

HNTB Corporation (HNTB) had previously performed traffic modeling and developed conceptual layouts for several alternatives as part of the US-41/WIS 441 Operational Needs Study in 2014. Traffic modeling efforts included alternatives testing of various short-term and long-term improvements. Since the completion of the US-41/WIS 441 Operational Needs Study, HNTB has developed new Vissim models to assess the study alternatives. Efforts involved in the development of the Vissim models have included updated base year traffic data, updated traffic forecast data, and extensive coordination with WisDOT Bureau of Traffic Operation (BTO), WisDOT Traffic Forecasting Section (TFS), and WisDOT Northeast Region (NER) staff. This effort has run concurrently with the safety analysis discussed in this memorandum effort since spring 2019.

A. Predictive Safety Analysis

To further understand the potential impact of the proposed alternatives on safety, the study team used the crash prediction tools within IHSDM software.

A few references on the development and purpose of the IHSDM are below:

1. The IHSDM is a suite of software analysis tools used to evaluate the safety and operational effects of geometric design decisions on highways. IHSDM is a decision-support tool that provides estimates of a highway design's expected safety and operational performance and checks existing or proposed highway designs against relevant design policy values. Results of the IHSDM support decision making in the highway design process. Intended users include highway project managers, designers, and traffic and safety reviewers in State and local highway agencies and in engineering consulting firms.[1]

2. The Highway Safety Manual (HSM) was developed by the Transportation Research Board and American Association of State Highway and Transportation Officials (AASHTO), with AASHTO publishing the 1st Edition HSM in June 2010. The HSM contains four parts (A, B, C, and D). Part C (Predictive Method) documents Crash Prediction Methodologies for three types of highways: rural two-lane highways, multilane rural highways, and urban/suburban arterials. In addition, the HSM 2014 Supplement contains Predictive Methods for Freeways and Ramps (HSM Chapters 18 and 19, respectively). The IHSDM Crash Prediction Module (CPM) is intended to be–to the extent possible–a faithful software implementation of the crash prediction methods documented in Part C of the HSM.[2]

The I-41 IHSDM analysis includes the use of Safety Performance Functions (SPF) and Crash Modification Factors (CMF) from the HSM to identify trends that may occur with and without improvements along I-41. A SPF is an equation used to predict the number of crashes along a roadway or at an intersection based on a limited number of variables. A CMF can be applied to an

[1] https://highways.dot.gov/safety/interactive-highway-safety-design-model/interactive-highway-safety-design-model-ihsdm. Accessed July 9, 2019.
[2] http://www.ihsdm.org/wiki/Frequently_Asked_Questions. Accessed July 9, 2019.

existing or predicted number of crashes to modify the total based on a change in conditions, such as expanding the outside shoulder width of a freeway from 10 feet wide to 12 feet wide.

The IHSDM analysis methodology for the study is discussed in Section 4. The freeway mainline was the primary focus of the I-41 IHSDM analysis. Crash prediction analysis was performed at select ramp terminal intersections throughout the corridor. Analysis and software limitations as it pertains to the I-41 study are discussed in Section 7.

SECTION 2
OVERVIEW OF ALTERNATIVES CONSIDERED

2.01 OVERVIEW OF ALTERNATIVES CONSIDERED

The following alternatives were considered and modeled in IHSDM for the I-41 corridor:

1. Existing Conditions
2. Future No-Build Alternative
3. Short-Term Build Alternative
4. Long-Term Build Alternative

A. Short-Term Build Alternative

The Short-Term Build Alternative includes low-impact improvements such as I-41 mainline acceleration lane extensions and ramp terminal intersection lane additions or extensions. Acceleration lane extensions were evaluated at five locations and intersection improvements were evaluated at 3 interchanges. These locations are shown in Figure 2.01-1 and are described further in Section 5.01.B.

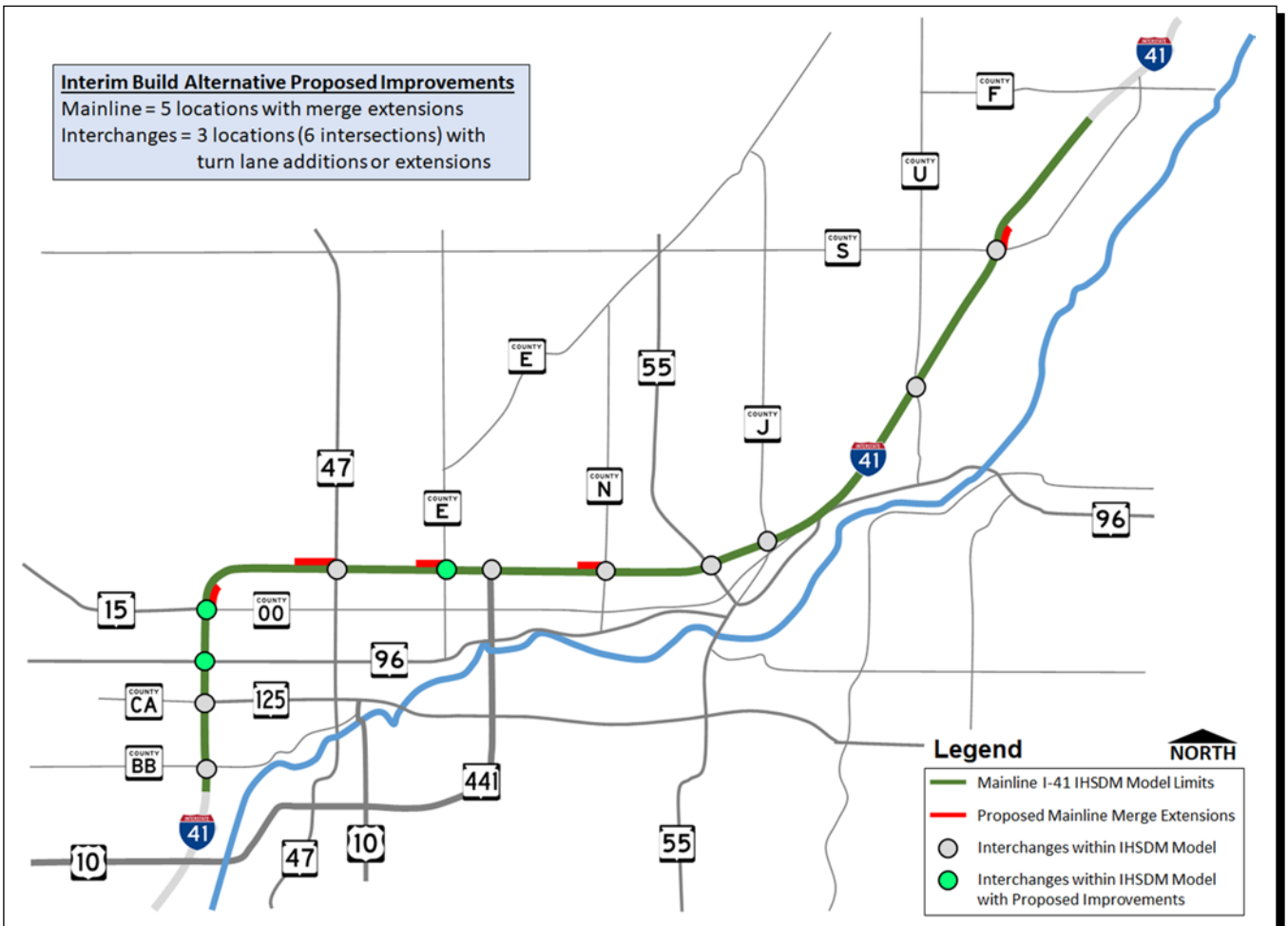


Figure 2.01-1 Overview of Short-Term Build Alternative

B. Long-Term Build Alternative

The Long-Term Build Alternative includes mainline capacity expansion of I-41 from four lanes to six lanes for approximately 22 miles of the corridor (STH 15 to south of CTH F) along with inside and outside shoulder width expansion and the addition of median barrier throughout the corridor. The limits of the proposed capacity expansion are shown in Figure 2.01-2 and the general cross section for the four-lane to six-lane expansion concept is shown in Figure 2.01-3.

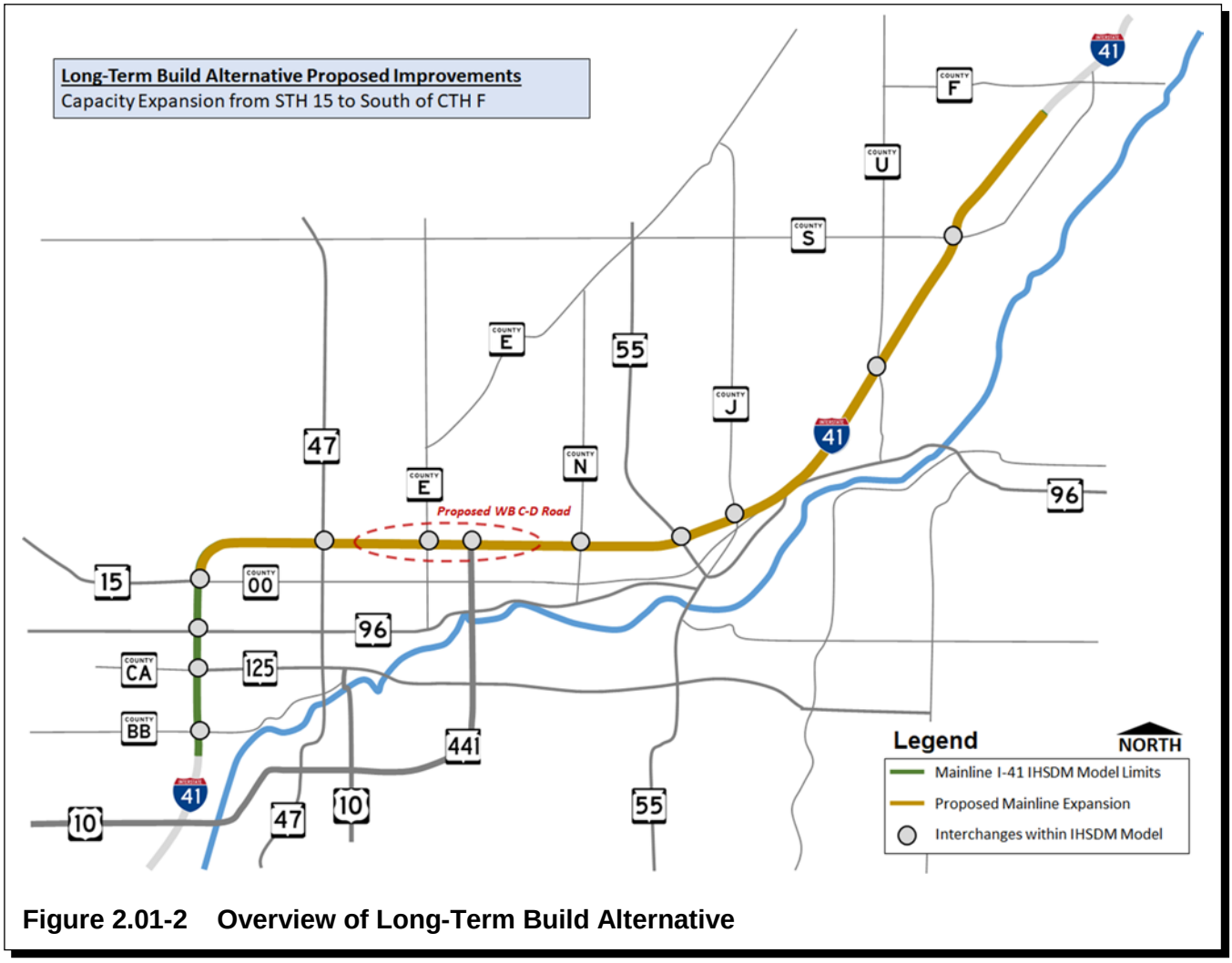


Figure 2.01-2 Overview of Long-Term Build Alternative

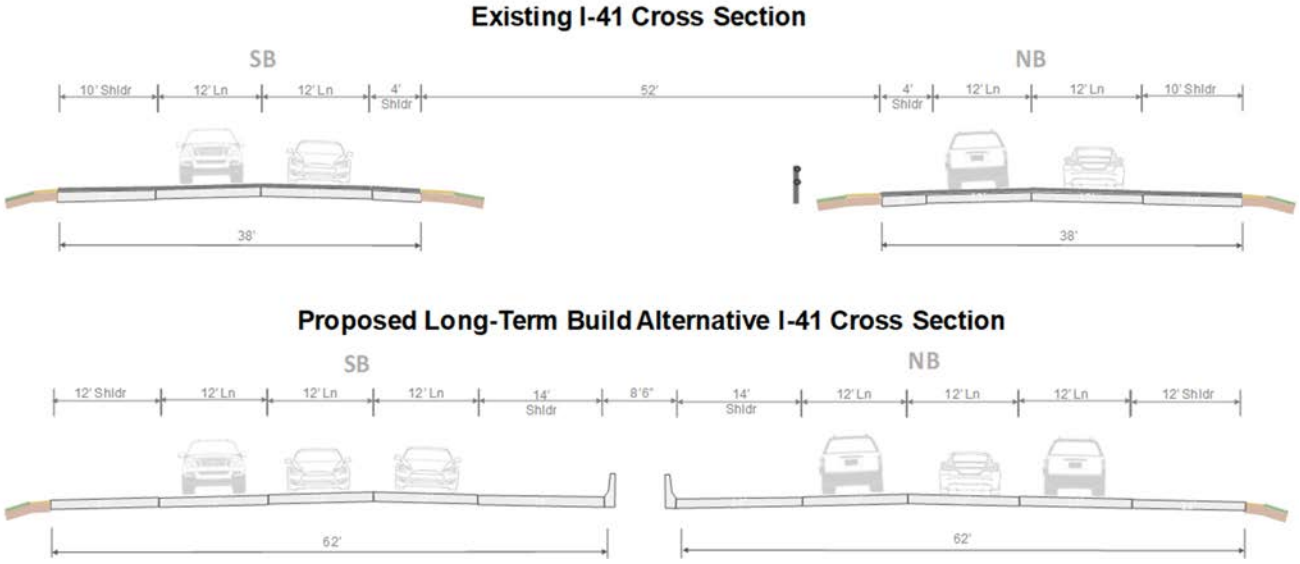


Figure 2.01-3 General Cross Section for Long-Term Build Alternative

The Long-Term Build Alternative includes ramp terminal intersection improvements for many of the interchanges within the study limits as well.

C. Traffic and Crash Data

For the I-41 Traffic and Engineering Study, base year (2018), interim year (2028), and design year (2048), balanced daily and peak period traffic volumes were developed by WisDOT and HNTB. More discussion on how the daily and peak period traffic volumes were used in the IHSDM analysis is included in Section 4 for existing conditions and Section 5 for future conditions.

The crash prediction evaluations for the Future No-Build, Short-Term Build, and Long-Term Build Alternatives were performed to represent a ten-year period from 2028 to 2037. The results of the alternatives analysis were compared back to the no-build conditions over this timeframe to understand the potential safety impacts for the various short-term and long-term improvements.

Along the I-41 mainline and at ramp terminal intersections, observed crash data was used to assist in the crash prediction evaluations, where possible. The observed crash data used in the analysis represented a five-year timeframe from 2013 to 2017 to be consistent with the WisDOT Division of Transportation Investment Management (DTIM) internal safety analysis that was ongoing at the onset of this study in spring 2019. More detail on the amount and type of crash data used for this study is included in Section 4.01.E. Discussion on how the crash data was used in the crash prediction methodology for the alternatives analysis is included in Section 5.

SECTION 3
DATA RESOURCES

3.01 DATA RESOURCES

The IHSDM freeway CPM requires many different inputs, ranging from alignments to geometric elements to traffic data. The project team collaborated with WisDOT to develop and use the most recent data available at the time of the analysis.

The data resources described below were used for the IHSDM analysis. Further explanation on how the data was used and applied within the IHSDM models is included in Sections 4 and 5 of this memorandum.

A. Alignments

1. Horizontal: Available record drawings, AutoCAD files from WisDOT, and aerial imagery.

2. Vertical: Not used in the CPM for freeways.

B. Geometric Elements

Geometric elements include cross section features (such as lane, inside and outside shoulder, and median widths) and other roadway features (e.g. presence of and distances to barriers, ramp gore locations, and weaving lengths). The primary data resources for these geometric elements were as follows:

1. Roadway and bridge as-builts plans ranging from 2006 to 2017 were provided by WisDOT in February 2019 covering I-41 from USH 10/STH 441 South to CTH F.

2. Aerials were obtained through the Outagamie County and Brown County Web sites representing 2018 and 2017 imagery, respectively. Winnebago County aerials that represented 2015 conditions were provided by WisDOT

3. Online mapping services were used to supplement and verify the as-built plans. These included Google Earth Pro and Google Street View.

C. Traffic Volume Data

1. Balanced daily traffic volumes prepared by HNTB and WisDOT TFS for the mainline, ramps, and intersection turning movements.

2. Mainline hourly traffic data at Automatic Traffic Recorder (ATR) sites provided by WisDOT.

3. University of Wisconsin Madison Traffic Operations and Safety (UW TOPS) Laboratory hourly traffic volume database.[1]
4. Weigh station traffic data provided by WisDOT Division of State Patrol (DSP).

[1] https://transportal.cee.wisc.edu/products/hourly-traffic-data/. Accessed May 2019.

D. Crash Data

1. Spreadsheet listings provided by WisDOT NER staff via the UW TOPS laboratory.

2. Crash reports provided by WisDOT NER staff via the UW TOPS laboratory.

3. Intersection crash diagrams provided by WisDOT NER staff.

SECTION 4
ANALYSIS METHODOLOGY

4.01 ANALYSIS METHODOLOGY

A. Software Version

Version 14.0.0 of the IHSDM, released September 26, 2018, was used for the I-41 crash prediction analysis. This was the most recent version of the IHSDM available at the onset of the analysis in February 2019.

A newer version of the IHSDM (version 14.1.0) was released in April 2019; however, the models were not updated to version 14.1 in order to stay consistent with both the version used at the onset of the analysis and the version used by WisDOT NER and BTO staff. In April 2019, the project team evaluated the existing conditions model in version 14.1.0 and found negligible differences in output as compared to the version 14.0.0 existing conditions model. The difference in IHSDM versions used for the I-41 analysis is not anticipated to affect the conclusions discussed in this memorandum.

B. Type of Crash Prediction Analysis

Part C of the HSM offers two types of procedures for predicting crashes, listed below:

1. Predictive Method: The first type of procedure uses HSM formulas, SPFs, and CMFs to estimate "predicted crashes." Observed crash data is not needed with this procedure.

2. Empirical-Bayes (E-B) Method: The second type of procedures uses existing crash data through the E-B Method to estimate "expected crashes."

There are several conditions as to which the E-B Method is applicable. Page A-16 of the HSM Part C indicates that the E-B Method should be used for analysis of the following project types:

- *"Sites at which the roadway geometrics and traffic control are not being changed (e.g., the "do-nothing" alternative);*

- *Projects in which the roadway cross section is modified but the basic number of through lanes remains the same (This would include, for example, projects for which lanes and shoulders were widened or the roadside was improved, but the roadway remained a rural two-lane highway);*

- *Projects in which minor changes in alignment are made, such as flattening individual horizontal curves while leaving most of the alignment intact;*

- *Projects in which a passing lane or a short four-lane section is added to a rural two-lane, two-way road to increase passing opportunities; and*

- *Any combination of the above improvements."*

For this study, the E-B Method is applicable and was used for evaluating the Future No-Build Alternative and Short-Term Build Alternative because each alternative meets the conditions listed above. The Predictive Method is applicable and was used for evaluating the Long-Term Build Alternative and, for

comparison purposes, the Future No-Build Alternative. The second condition is not met for considering the E-B Method with the Long-Term Build Alternative because, for the majority of the corridor, the basic number of through lanes increases with this alternative (six lanes) compared to the existing condition (four lanes).

C. Horizontal Alignments

The two different coding methods available in the IHSDM to perform a predictive crash analysis are the station-based methodology and site-based methodology. The station-based methodology allows for automatic segmentation of highways and allows for the design to be viewed in the Highway Viewer application within the software. This methodology is generally best for use when comparing design alternatives and when detailed highway geometry data is available. The site-based methodology is generally better for the evaluation of intersections or highways were detailed stationing data is not available. For this study, the station-based methodology was used and was initiated by developing and importing an I-41 mainline horizontal alignment file covering the limits of the analysis. This approach allowed a more efficient way to compare multiple alternatives along the I-41 mainline.

1. I-41 Mainline

The horizontal centerline alignment file covers approximately 25.5 miles of the I-41 mainline from south of CTH BB (Station [Sta.] 392+00) to south of CTH F (Sta. 1736+57). The horizontal centerline alignment of I-41 was developed using AutoCAD files and record drawings from previous projects. The alignment information from record drawings was used to fill in gaps where alignments were missing from AutoCAD. For remaining gaps, aerial imagery was used. Section 3 describes these data resources in more detail.

The mainline horizontal alignment began as a design file from AutoCAD and was converted into a LandXML file to be imported into IHSDM. Once the LandXML file was imported, the heading was rotated in order for the horizontal alignment to represent the existing I-41 mainline.

After the mainline horizontal alignment was developed, a set of plan sheets was made at 200 scale showing the alignment over the aerials obtained for each county within the study area. These plan sheets were instrumental in preparing inputs for the existing conditions IHSDM model. A portion of an example plan sheet at the I-41 and STH 441 interchange with centerline stationing is shown in Figure 4.01-1. The existing conditions plan sheets for the entire corridor are located in Attachment A.



Figure 4.01-1 Example of Aerial with Freeway Centerline Stationing

2. Ramps and Crossroads

Existing ramp alignments were created for each ramp at each of the 12 interchanges and at the Safety and Weight Enforcement Facility (SWEF), or weigh station, within the project limits. In total, 46 service ramps and 4 system ramps are included in the existing conditions IHSDM model. The ramp alignments were developed using the same process as the mainline.

Crossroad alignments were created by the project team at locations where potential ramp terminal intersection improvements are being analyzed. The crossroad alignments were created for CTH BB, STH 125, STH 96, STH 15, STH 47, CTH E, and CTH N. Ramp terminal intersections were coded in the IHSDM model at each of these seven crossroads. Intersections adjacent to the ramp terminal intersections are not included in the operations or safety analysis for the I-41 Traffic and Engineering Study, but may be added in the future.

D. Urban Versus Suburban Versus Rural

Outside of the CPM in the IHSDM, a roadway can be defined with an area type of urban, suburban, or rural. The HSM considers urban and suburban area types to be equal, meaning both area types are considered “urban” in terms of the SPF definitions. This distinction is important for freeways, as the rural and urban SPFs have different characteristics. It should also be noted that the urban definition in the HSM is related to population rather than geometrics. Page 19-4 of the HSM explains further:

“Classifying an area as urban, suburban, or rural is subject to the roadway characteristics, surrounding population, and surrounding land uses, and is at the analyst's discretion. In the HSM,

the definition of "urban" and "rural" areas is based on Federal Highway Administration (FHWA) guidelines which classify "urban" areas as places inside urban boundaries where the population is greater than 5,000 persons. "Rural" areas are defined as places outside urban areas where the population is less than 5,000 persons. The HSM uses the term "suburban" to refer to outlying portions of an urban area; the predictive method does not distinguish between urban and suburban portions of a developed area."

For the I-41 analysis, WisDOT's urbanized area maps for the cities of Appleton and Green Bay were used as a basis for determining limits of the urban and rural sections of the I-41 corridor.[1] The maps show that I-41 from the southern limit of the study (south of CTH BB) to CTH JJ is considered urban or suburban; I-41 from CTH JJ to CTH S is considered rural; and CTH S to the northern limit of the study (south of CTH F) is considered urban or suburban. WisDOT NER recommended considering I-41 as a rural section from CTH JJ to Orange Lane and as an urban section from Orange Lane to the city of Green Bay based on the rural operational nature of the CTH S to Orange Lane portion of the corridor.

For the purposes of the IHSDM analysis, the urban and rural area type settings were coded as shown in Table 4.01-1 for the existing conditions analysis.

Location (Physical)	Location (Stationing)	Urbanized Area Map Definition	Area Type Used for IHSDM
South of CTH BB to CTH JJ	392+00 to 1250+80	Urban/Suburban	Urban
CTH JJ to CTH S	1250+80 to 1567+20	Rural	Rural
CTH S to Orange Lane	1567+20 to 1720+00	Urban/Suburban	Rural*
Orange Lane to South of CTH F	1720+00 to 1736+57	Urban/Suburban	Urban

*Rural area type used based on the rural operational nature of the roadway.

Table 4.01-1 Urban and Rural Area Type Settings

E. Observed Crash Data

For the E-B analysis along the I-41 mainline, WisDOT provided 2013 to 2017 crash data (five years) covering the extents of the study limits. The data provided included latitude and longitude coordinates obtained from WisTransPortal for nearly 2,200 crashes along the I-41 mainline. Collisions with deer and other animals were provided in the spreadsheet listing.

[1] WisDOT Urbanized Area Maps: https://wisconsindot.gov/Pages/projects/data-plan/plan-res/boundaries.aspx. Accessed March 20, 2019.

The steps taken to review and format the crash data provided for use in the IHSDM were as follows:

1. The spreadsheet columns below were created to match IHSDM entry fields.

    a. Year–2013 to 2017 for this analysis.

    b. Severity–Identified as either Fatal and Injury (FI) or Property-Damage Only (PDO) for freeway segments and speed-change lanes. KAB crash severity is an option in IHSDM but is not applicable to freeway SPFs.

    c. Crash Type–Single-Vehicle (SV) and Multi-Vehicle (MV) were the only crash types observed along I-41. No pedestrian, bicycle, or driveway crashes were identified.

    d. Location–Station assignment of each crash to the nearest 10-foot mark.

    e. Direction–Identified as increasing (northbound) or decreasing (southbound).

    f. Relation to Intersection and Ramp Terminal–Not needed for freeway mainline analysis.

2. Checks performed using fields provided in typical crash data spreadsheet:

    a. Crash Type (item 1c above) compared to manner of collision and total number of vehicles involved in the collision.

    b. Direction (item 1e above) compared to reported on-highway direction and travel directions of the vehicle(s) involved in the collision. For I-41, inconsistencies in these fields were most common along the north side of the city of Appleton where I-41 is oriented east and west. Crash reports were reviewed to verify the direction of travel for flagged crashes.

    c. Relation to Intersection and Ramp Terminal (item 1f above) compared to the crash location flag that identifies crashes as intersection-related (I) or non-intersection related (N). It was found that “I” was occasionally marked for freeway crashes near ramps or overpasses, which could be confused as a ramp terminal intersection crash.

    d. Removed nine vehicle-fire crashes. These crashes were not included in the E-B analysis.

    e. Flagged “Other Animal” crashes in the accident type column. These crashes were then included with deer-crash data set.

3. Stationing of each crash was assigned using Geographic Information Systems (GIS) software. A dummy alignment was created with ticks every 10 feet and labeling every

10 feet. This allowed for the station location of each crash to be identified to the nearest 10-foot-mark using GIS.

After completing the steps described above, the project team found that 1,850 total crashes occurred along I-41 from 2013 to 2017 within the study limits. Of these crashes, 183 were animal-related, leaving 1,667 collisions that only involved vehicles. Through coordination with WisDOT NER and BTO, it was decided this study should use two crash data sets for the E-B Method. One crash data set included all crash types (vehicle crashes plus animal-related crashes), which is more consistent with the HSM SPFs for freeways that include animal-related crashes. The other crash data set analyzed included vehicle-only crash types (excluding animal crashes), which is more consistent with the way WisDOT has historically performed traditional crash analyses and Wisconsin's statewide average crash rates.

F. Recent Construction

Additional analysis with the observed crash data was needed in areas of the corridor that had geometric changes related to recent construction. When using the E-B Method, WisDOT Facilities Development Manual (FDM) 11-38 states the following:[2]

- *"Use up to five of the most recent years of crash data.*
- *Confirm no geometric or traffic control changes have occurred over the duration of the crash data. If changes have occurred, utilize only the years of crash data after the change (shall have at least two years of data)."*

Appendix B-15 of the HSM states that the E-B Method should not be used if the observed crash data for a time period is not indicative of the crash experience that is likely to occur after a major geometric improvement. In other words, crashes may not need to be excluded from the E-B Method if the improvements proposed have not substantially changed crash patterns.

There were mainline ramp connections at two interchanges in Outagamie County that had changes in geometrics as a result of construction in 2017. These locations include the following:

1. STH 55 Interchange
    a. I-41 southbound entrance acceleration lane addition/extension.
    b. I-41 northbound exit deceleration lane addition/extension.
2. Weigh Station
    a. I-41 northbound exit ramp lengthening.
    b. I-41 northbound acceleration lane extension.

[2] FDM 11-38-10.5.2.2. Accessed February 13, 2019.

The observed crash data at these three locations was reviewed to identify patterns.

1. For the STH 55 improvements, 82 crashes were reviewed.

    a. 23 crashes were within the limits of the southbound acceleration lane addition/extension improvements. Of the 23 crashes, 6 were related to merging traffic with 3 of those being in snowy conditions.
    b. 11 crashes were within the limits of the northbound deceleration lane addition/extension improvements, none of which were found to be related to exiting traffic.

2. For the weigh station improvements, 25 crashes were reviewed.

    a. 7 crashes were within the limits of the northbound improvements, none of which were found to be related to traffic entering from or exiting to the weigh station.

The project team concluded that there were no substantial trends related to the improvement areas that would require crashes to be excluded from E-B Method because of recent construction.

G. Geometric Elements: Existing Conditions

Table 4.01-2 shows a list of the existing conditions geometric input spreadsheets, and contents of each, developed by the project team for the I-41 IHSDM analysis. The existing conditions geometric input spreadsheets are located in Attachment B.

Geometric Input Summary Spreadsheet	Contents
Interchange and Ramp Connection	▪ Interchange name and station ▪ Ramp type, approximate length, and number of lanes ▪ Ramp gore location, gore-to-taper length ▪ Part of weave (yes/no), additional notes
General Purpose (GP) Lane	▪ Separate tables for northbound and southbound ▪ Lane widths for each GP lane ▪ Auxiliary lane widths, length, type of weave, and whether to count auxiliary lane as a through lane ▪ Parallel merge/diverge stationing, gore-to-taper length, lane width, and whether to count parallel merge/diverge as a through lane, and additional notes
Inside Shoulder Width	▪ Separate tables for northbound and southbound ▪ Inside shoulder width for starting and ending stations ▪ Presence of rumble strips (yes/no)
Outside Shoulder Width	▪ Separate tables for northbound and southbound ▪ Outside shoulder width for starting and ending stations ▪ Presence of rumble strips (yes/no)
Median Width	▪ Summarized by increasing stations only (accounts for both direction of travel) ▪ Median width, measured from inside shoulder edge to inside shoulder edge, for starting and ending stations
Median Barrier	▪ Separate tables for northbound and southbound ▪ Presence of median barrier or guardrail (yes/no) ▪ Type of barrier (barrier, guardrail, curb, or none) ▪ Offset to barrier, measured from left edge of leftmost through lane to face of barrier, for starting and ending stations.
Outside Barrier and Clear Zone	▪ Separate tables for northbound and southbound ▪ Presence of barrier or guardrail (yes/no) ▪ Type of barrier (barrier, guardrail, curb, or none) ▪ Offset to barrier or guardrail, measured from right edge of rightmost through lane to face of barrier, based on average value along segment's starting and ending stations ▪ Indication whether or not to associate the outside barrier with the freeway (yes/no)[1] ▪ Clear zone distance[2] ▪ *Note: An additional summary spreadsheet was created to simplify data entry and review.*

[1] Outside Barrier is associated with freeway if offset from through lane edge was measured to be 30 feet or less (HSM Page 18-18).

[2] Clear zone was spot checked and found to be greater than or equal to 30 feet where no barrier was present. Where outside barrier is present, clear zone does not affect crash calculations. A value of 30 feet was assumed for the entire corridor, cancelling out the clear zone CMF for the analysis.

Table 4.01-2 Description of Existing Conditions Geometric Input Spreadsheets

To code the existing I-41 mainline within IHSDM, the project team first copied the existing conditions geometric elements into the model. The Highway Viewer feature within IHSDM was used to review how the various spreadsheet inputs overlapped and worked together to build the freeway within the software. The goal of this exercise was to have the Highway Viewer version of the I-41 corridor to look as close as possible to the geometry in the field. Inputs that do not affect the crash calculations, such as auxiliary lanes for Type A weaves, were added to the model as needed for visual purposes.

To assist in the geometric input development, internal quality control and WisDOT review efforts, typical section graphics were created showing existing geometry at 28 representative locations. These locations are shown in Figure 4.01-2 and were chosen to represent most bridge locations within the study limits and generally one location between each service interchange. An example typical section of the freeway mainline between interchanges is shown in Figure 4.01-3 and an example constrained typical section at a bridge is shown in Figure 4.01-4. All of the existing conditions typical section graphics developed for the IHSDM analysis are shown in Attachment C.

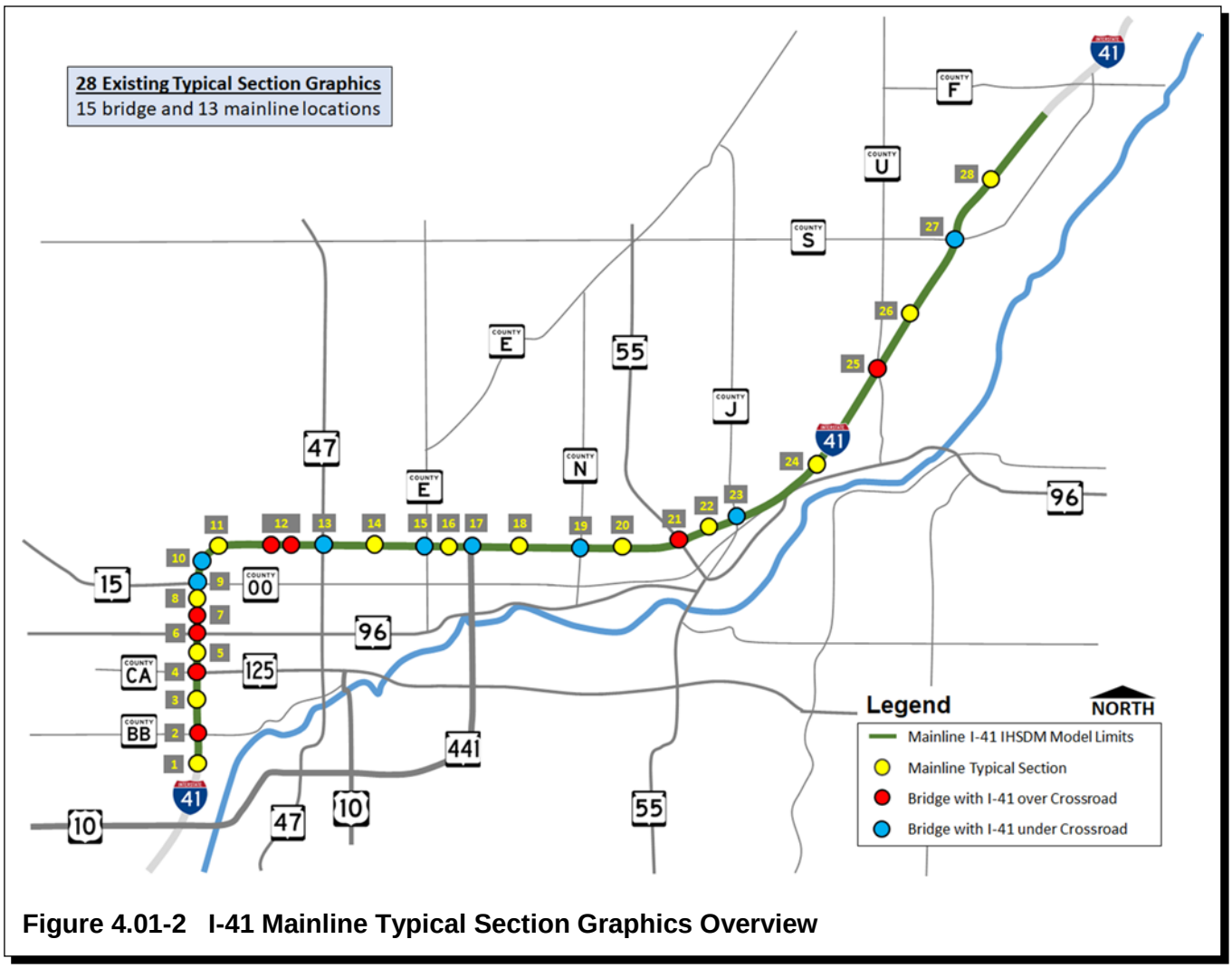


Figure 4.01-2 I-41 Mainline Typical Section Graphics Overview

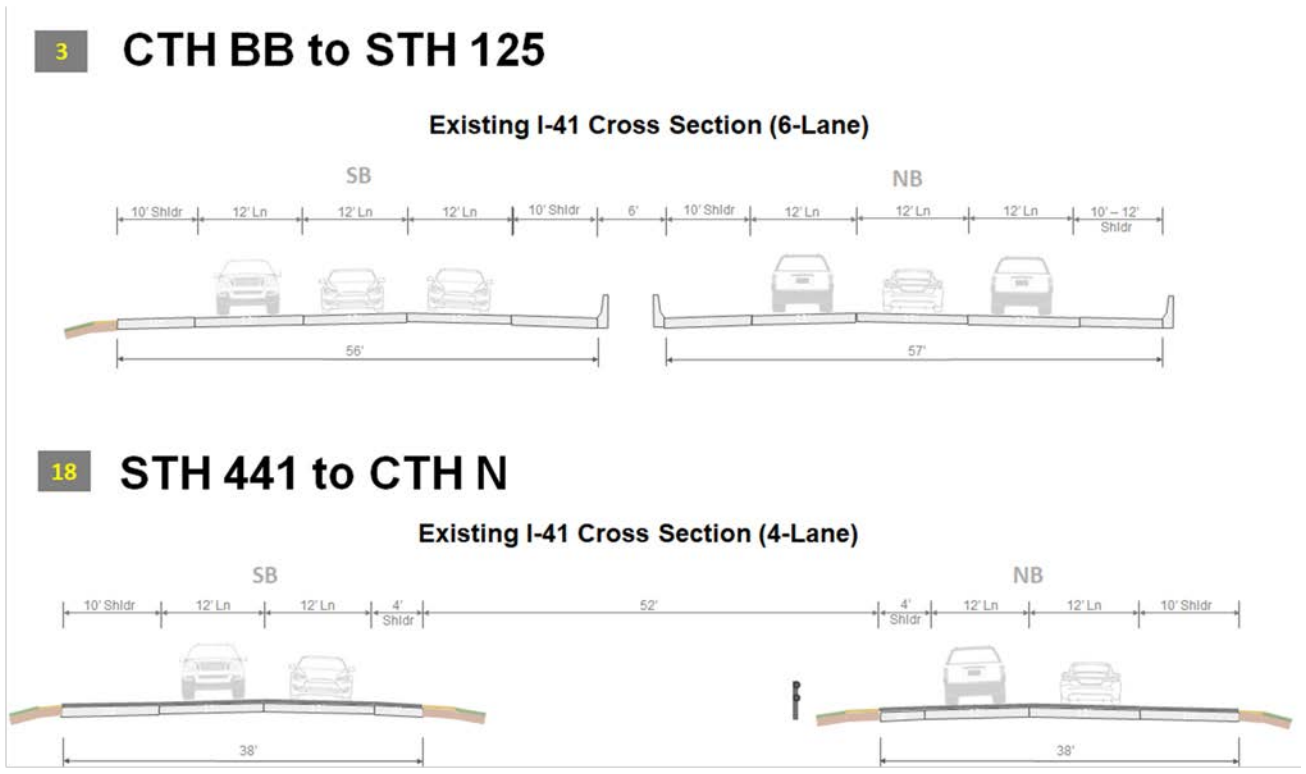


Figure 4.01-3 Example I-41 Typical Sections for Existing Conditions (Six-Lane and Four-Lane)

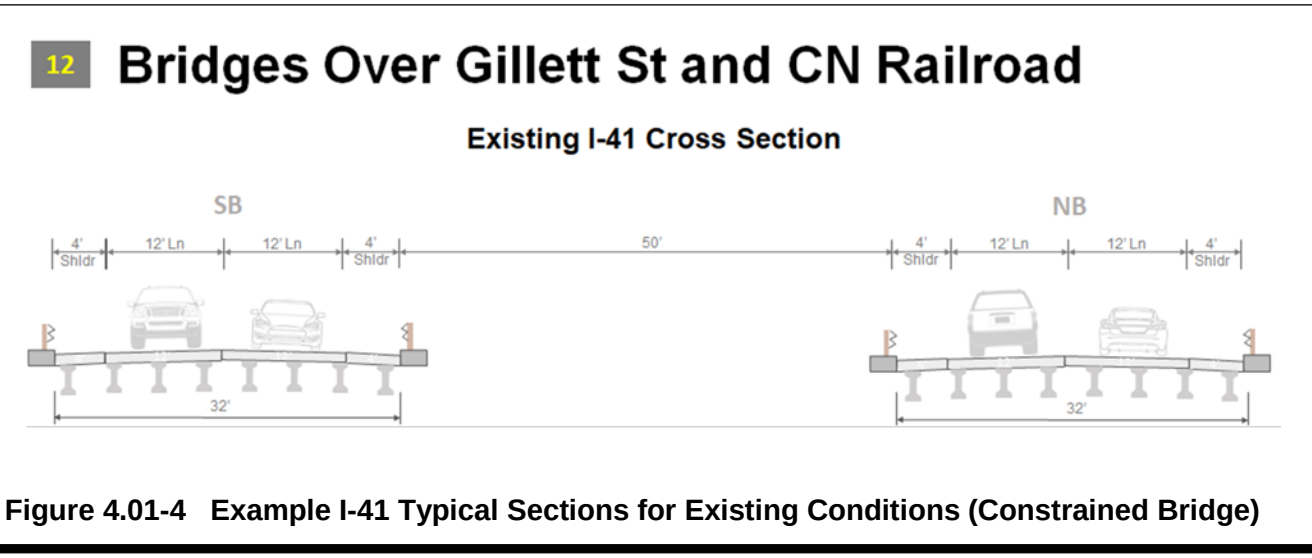


Figure 4.01-4 Example I-41 Typical Sections for Existing Conditions (Constrained Bridge)

The following provides more discussion on methodology and assumptions for the geometric features shown in Table 4.01-2.

1. Number of Through lanes

There are guidelines in the HSM that require Type B weaving segments or merge/diverge segments over specific lengths to be classified as through lanes. The requirements, which are described further in Page 18-15 of the HSM, are as follows:

- Type B weaves greater than 0.85 miles (4,488 feet) are counted as through lanes.
- Merge or diverge segments greater than 0.30 miles (1,584 feet) are counted as through lanes.

Figure 4.01-5 provides a schematic example of the Type A and Type B weaves and Figure 4.01-6 is from the HCM 2000, which describes the definitions of Type A, B, and C weaves by the number of lane changes required by movement.

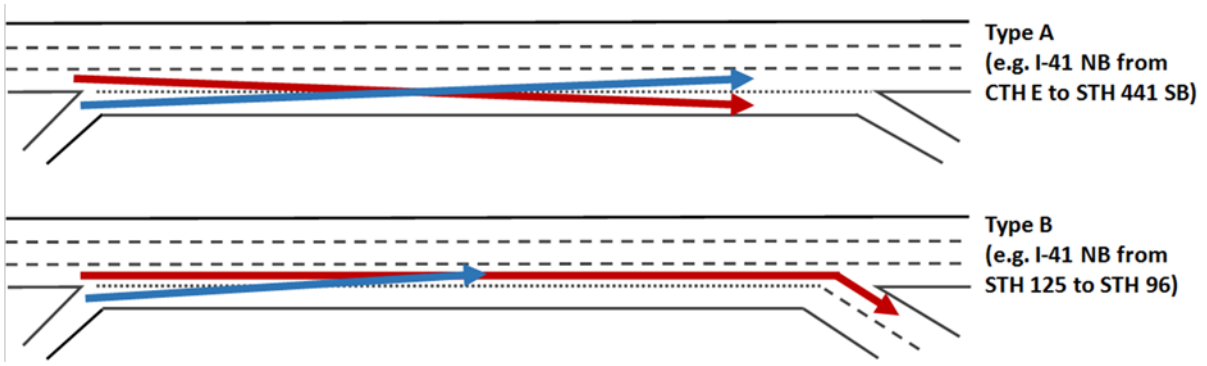


Figure 4.01-5 Examples of Type A and Type B Weaving Sections

EXHIBIT 24-5. DETERMINING CONFIGURATION TYPE

Number of Lane Changes Required by Movement v_{w1}	Number of Lane Changes Required by Movement v_{w2}		
	0	1	≥ 2
0	Type B	Type B	Type C
1	Type B	Type A	N/A
≥ 2	Type C	N/A	N/A

Note:
N/A = not applicable; configuration is not feasible.

Source: HCM 2000

Figure 4.01-6 HCM 2000 Definitions of Weaving Sections

There are no locations meeting the Type B weave through lane criteria (greater than 0.85 miles) along the existing I-41 corridor. Two locations meet the gore-to-taper length through lane criteria (greater than 0.30 miles). These locations are as follows:

- I-41 Northbound Diverge to STH 47 = 1,685 feet (Sta. 718+60 to Sta. 735+45)
- I-41 Southbound Diverge to STH 47 = 1,670 feet (Sta. 762+30 to Sta. 779+00)

For these locations, the parallel deceleration lane is coded as a through lane and the taper length to develop the deceleration lane is also coded for visual purposes only. The gore-to-taper length coded in the model is equal to zero for these two locations.

2. Rumble Strips

As shown in Table 4.01-2, the presence of rumble strips is a required field for inside shoulder and outside shoulder inputs. There are portions of the existing I-41 corridor where differing patterns of rumble strips are in place. For the purposes of this discussion, the two different patterns of rumble strips observed are referred to as “gapped” and “continuous”. These two rumble strip patterns are shown in Figure 4.01-7 along the inside shoulder.

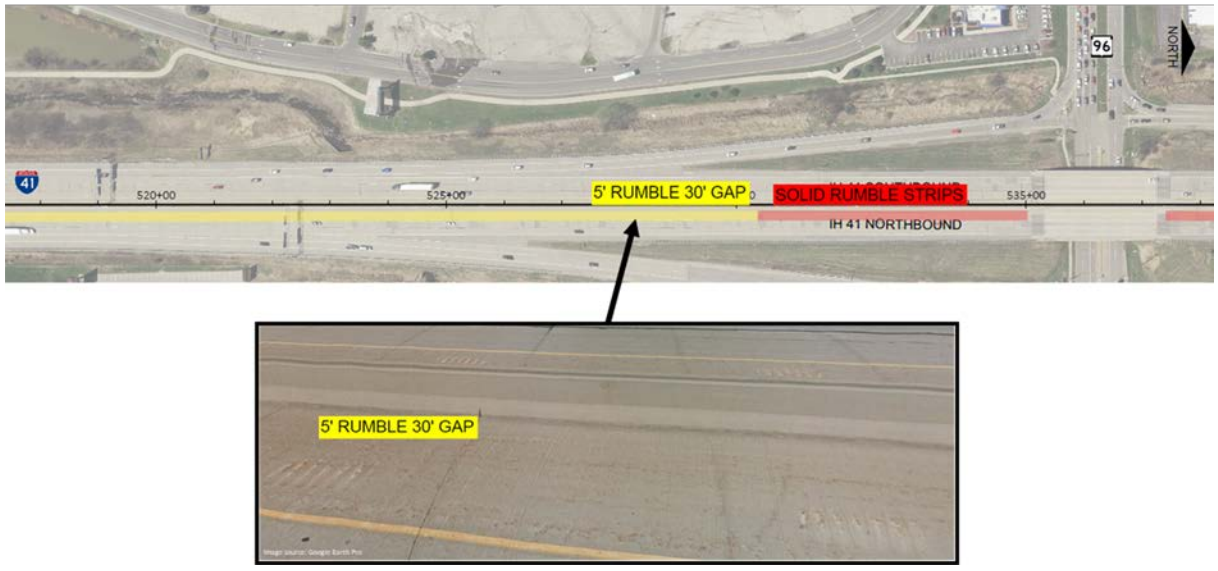


Figure 4.07 I-41 Existing Rumble Strip Patterns

The project team discussed the origin and operation of these two types of rumble strip patterns with WisDOT NER and BTO staff. The gapped rumble strips are an older design and are spaced approximately 30 feet from one another. The continuous rumble strips would be put in place with any new construction. The group agreed that each type of rumble strip would operate similarly when driving at high speeds (I-41 is posted at 70 mph) and rumble strips with 30-foot gaps should be coded as continuous rumble strips for the purposes of the IHSDM analysis.

3. Median Barrier

The HSM defines, on Page 18-18, that median barrier is associated with the freeway if it is within 30 feet of the leftmost travel lane’s edge. From STH 15 to the northern limit the mainline median width is generally over 50 feet wide, leading to many areas where the offset to a median barrier

is over 30 feet. Figure 4.01-8 shows a representation of the HSM definition and an example of the offsets for the I-41 northbound direction of travel at a location east of STH 47.

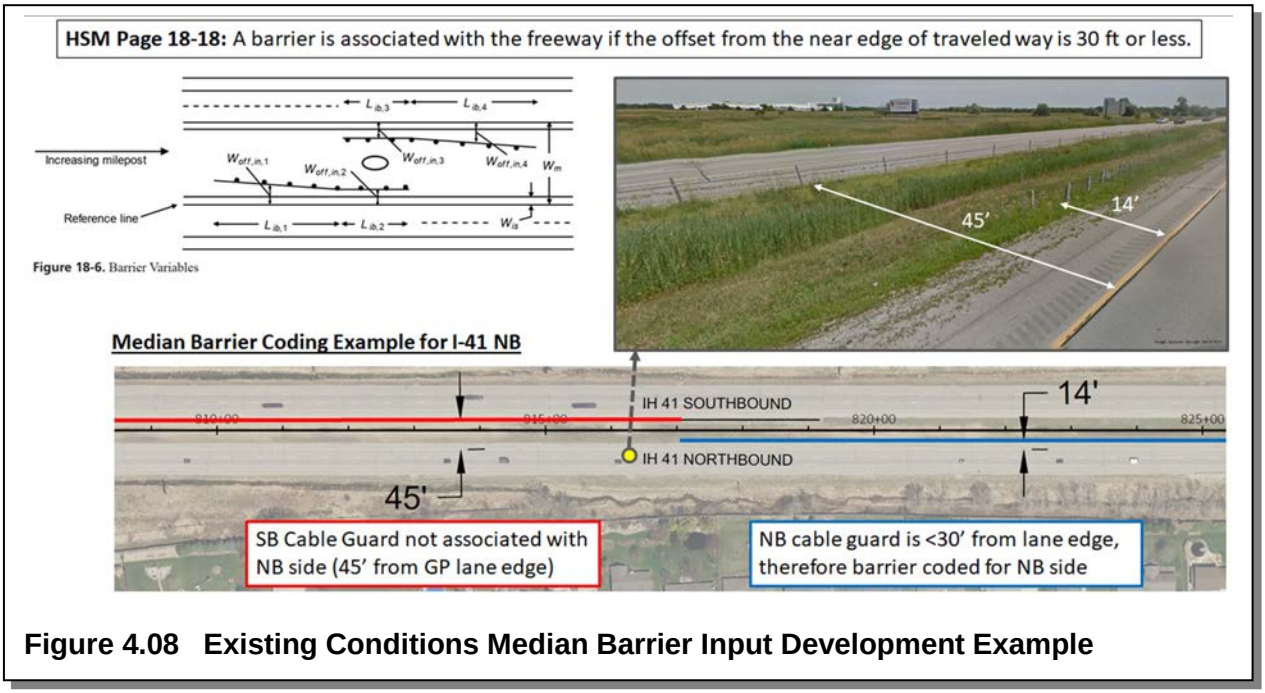


Figure 4.08 Existing Conditions Median Barrier Input Development Example

Along I-41, median barrier is present for at least one direction of travel for approximately 99 percent of the study corridor. There are a number of small gaps with no barrier (for example at emergency crossover locations) along the corridor, nearly all between 30 and 80 feet long. Per the HSM offset definitions, median barrier is present for approximately 56 percent of the corridor in the southbound direction of travel and for approximately 65 percent of the corridor in the northbound direction of travel.

Table 4.01-3 shows a summary of the median barrier presence in the field and per the HSM definitions.

Analysis Direction of Travel along I-41	Distances (feet) and Proportions		
	Barrier Presence[1]	Barrier Presence on Opposing Side[2]	Remaining with No Barrier
Northbound	87,284 (64.9%)	45,689 (34.0%)	1,484 (1.1%)
Southbound	75,634 (56.3%)	57,339 (42.6%)	1,484 (1.1%)

Note: Total length of I-41 corridor from Sta. 392+00 to Sta. 1736+57 is equal to 134,457 feet.
[1] Barrier presence is defined by HSM as within 30 feet of leftmost travel lane's edge. These values are associated with the analysis direction of travel.
[2] Barrier is present for the opposing direction of travel but is over 30 feet from leftmost travel lane's edge. These values are not associated with the analysis direction of travel.

Table 4.01-3 Existing Presence of Median Barrier Along I-41

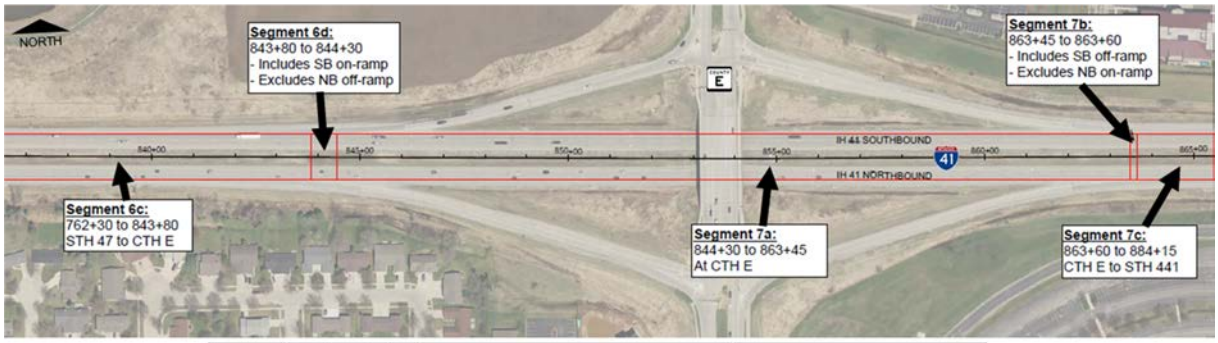
It should be noted that differences in barrier type (concrete barrier, cable guard, and guardrail) are not distinguished in the predictive method in terms of their possible different influences on crash severity (HSM Page 18-56).

H. Traffic Volumes: Existing Conditions

1. Daily Traffic Volumes

As discussed in Section 2, balanced directional daily traffic volumes for a base year of 2018 were provided to the study team for the IHSDM analysis. Two-way annual average daily traffic (AADT) volumes are required for the crash prediction analysis because the urban and rural freeway SPFs in the HSM are calibrated to two-way AADT volumes. To convert a balanced volume data set to a station-based data set, the project team identified and created two-way traffic volume segments throughout the corridor.

A representation of this segmentation exercise is shown in Figure 4.01-9 at the I-41 and CTH E interchange, where Segments 6d and 7b represent short breaks in traffic volumes between ramp gores. The short two-way traffic volume segments were common along I-41 because ramp gore locations in opposite directions typically did not align.



Segment	Station Start	Station End	Mainline Description	Ramp Notes
6c	762+30	843+80	STH 47 to CTH E	
6d	843+80	844+30	CTH E southern ramps, between gores	Includes SB on, Excludes NB off
7a	844+30	863+45	At CTH E	
7b	863+45	863+60	CTH E northern ramps, between gores	Includes SB off, Excludes NB on
7c	863+60	884+15	CTH E to STH 441	

Overall Corridor: Traffic volume segmentation results in 51 total segments.

Figure 4.01-9 I-41 Traffic Volume Segmentation Example

Attachment D summarizes the two-way AADT volumes for the existing conditions.

2. Hourly Traffic Volumes

Hourly traffic data is required in the CPM to estimate the proportion of congested hours in a given day, or high-volume hours, along a freeway. The HSM (Page 18-21 and 18-39) defines the High Volume CMF as the following:

> *"Proportion of freeway AADT volume that occurs during hours where the lane volume exceeds 1,000 vehicles per hour per lane. Typical freeway speed-volume relationships show that the average speed tends to drop as flow rates increase beyond 1,000 veh/h/ln. This trend suggests that drivers reduce their speed to improve their comfort and safety as their headways get shorter than 3.6 s/veh (= 3,600 / 1,000)."*

For I-41, weekday traffic counts were available at 13 mainline sites; six of these locations were short-term counts from 2016; and seven of the mainline locations were continuous counts from ATR, where annual average traffic volume data from 2018 was provided by WisDOT TFS and used for the analysis. For the purposes of the IHSDM analysis, each short-term count location was assigned a "Trend ID" to help identify traffic patterns for a specified portion of I-41. The 13 mainline count sites and their respective Trend IDs, separated by short-term counts and continuous counts, are shown in Figure 4.01-10.

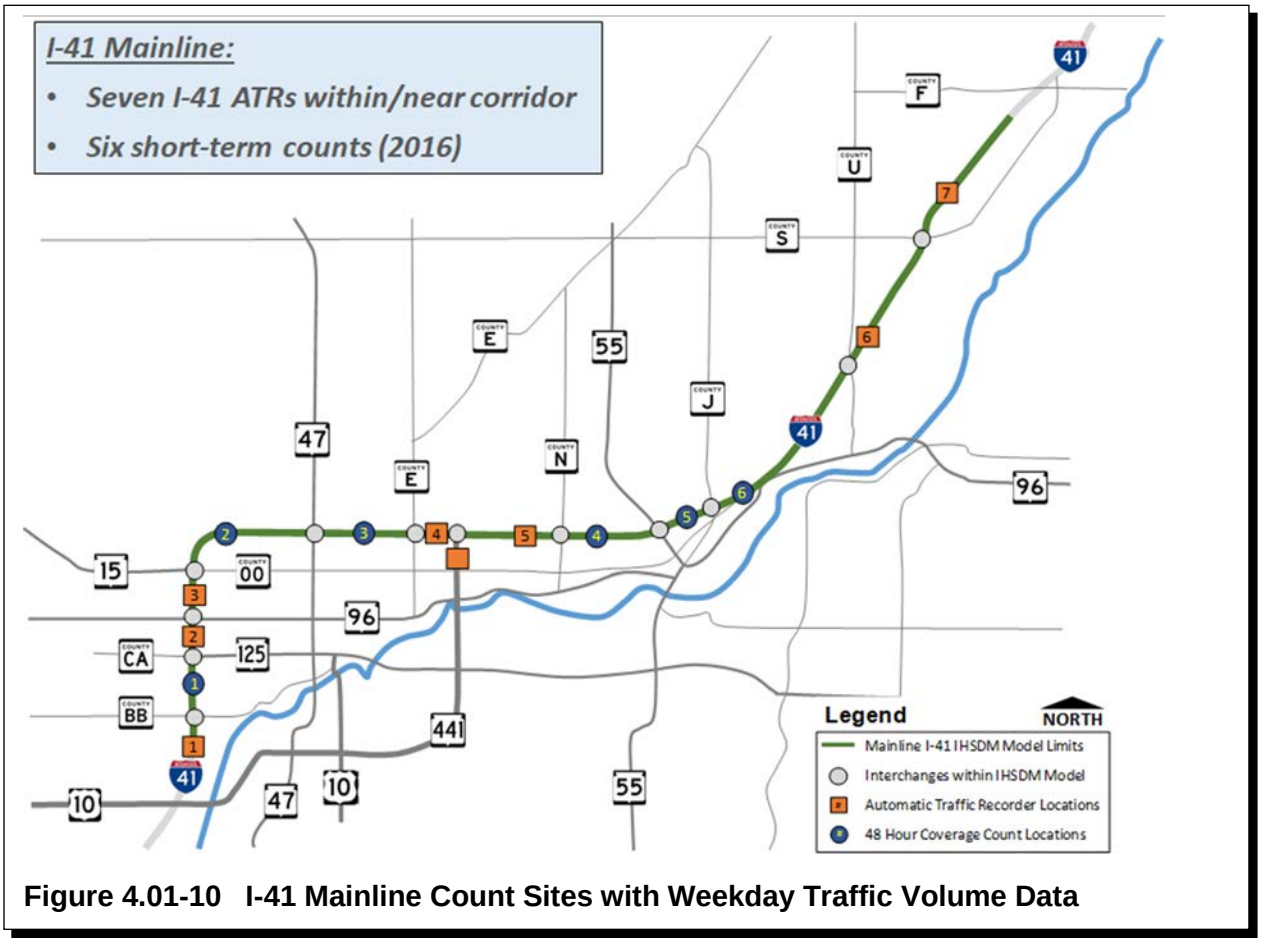


Figure 4.01-10 I-41 Mainline Count Sites with Weekday Traffic Volume Data

AADT volumes are meant to represent average volumes for all days of the year. The short-term traffic counts available at the onset of the study were performed during weekdays, so an estimate of weekend traffic data was needed at these locations in order to complete the high-volume hour calculations. The seven ATR locations along I-41 near or within the study corridor were used in the existing conditions IHSDM analysis to estimate weekend trends for the high-volume hour calculations. The application of the weekend traffic volume data is shown in Figure 4.01-11.

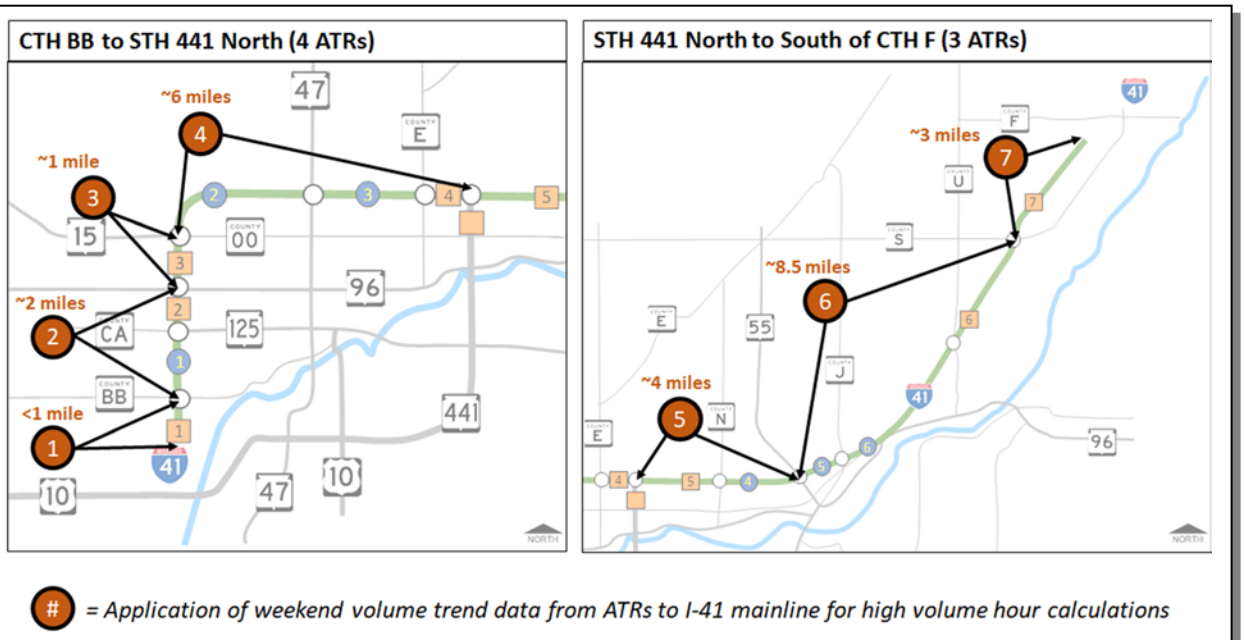
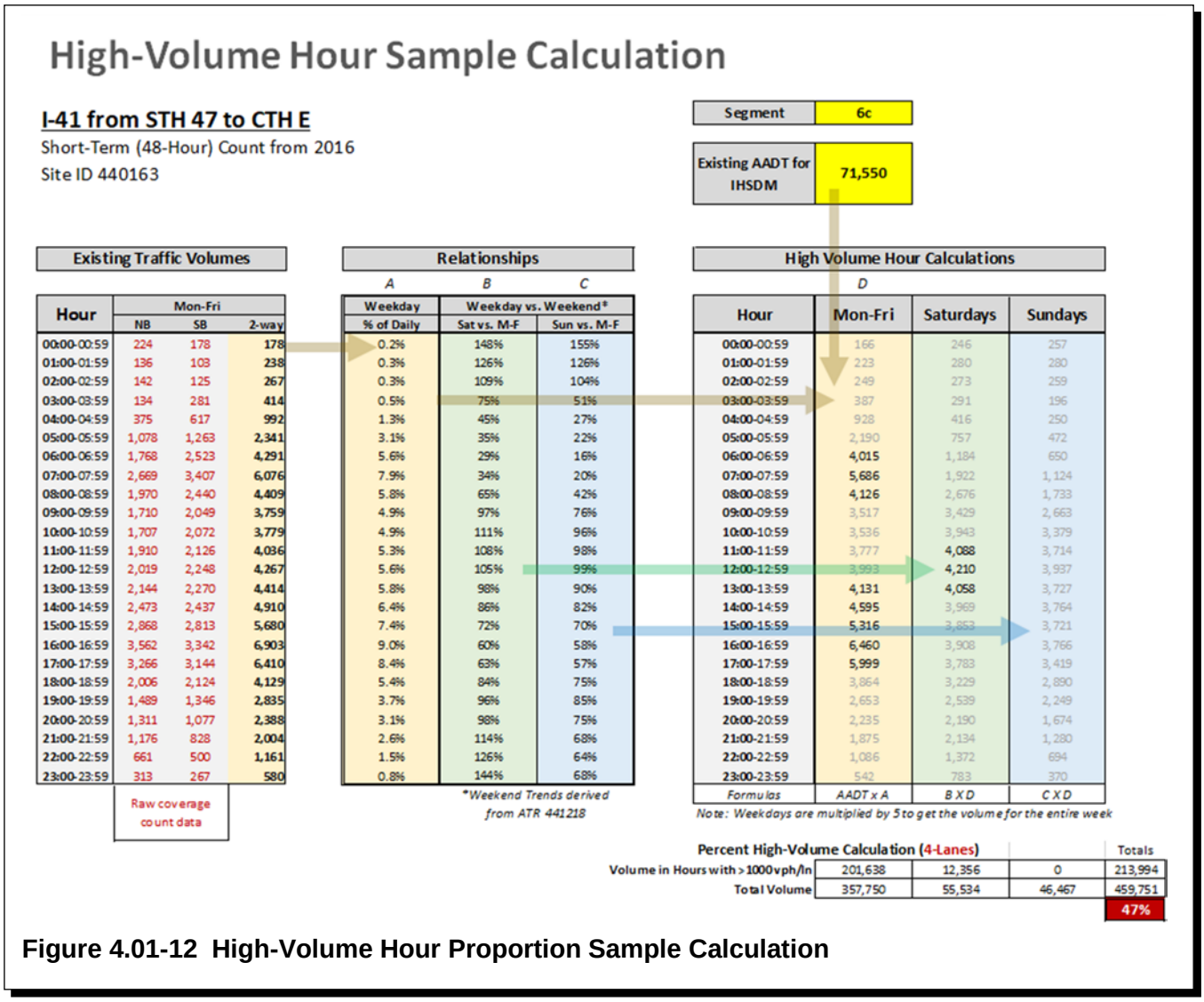


Figure 4.01-11 Application of Weekend Traffic Volume Data

The high-volume hour calculations were performed by applying the weekday and weekend trends to the two-way AADT of each individual traffic volume segment. The project team developed two to six traffic volume segments that were covered under each count site.

Figure 4.01-12 shows a sample high-volume hour calculation for one of the traffic volume segments. In this sample, the raw weekday directional and two-way volumes are shown on the table to the left. The middle table labeled “Relationships” summarizes the weekday trends from the raw coverage count data and the weekday versus weekend trends from short-term count site 440163 (STH 47 to CTH E). The table to the right summarizes how the trends in the “Relationships” table are applied to the “Existing AADT Volume for IHSDM” value to estimate hourly volumes for weekdays, Saturdays, and Sundays. Formulas are given on the lower part of the right-hand table to indicate how the hourly volumes are estimated. Finally, a percent high-volume hour value is calculated by dividing the total volume in hours with greater than 1,000 vehicles per hour per lane (vphpl) by the total volume throughout the target day(s). The high-volume hour proportion value shown in the red box in the lower right (0.47 in the sample calculation) is then entered into the IHSDM model.



High-Volume Hour Sample Calculation

I-41 from STH 47 to CTH E
Short-Term (48-Hour) Count from 2016
Site ID 440163

Segment	6c
Existing AADT for IHSDM	71,550

Existing Traffic Volumes

Hour	Mon-Fri		
	NB	SB	2-way
00:00-00:59	224	178	178
01:00-01:59	136	103	238
02:00-02:59	142	125	267
03:00-03:59	134	281	414
04:00-04:59	375	617	992
05:00-05:59	1,078	1,263	2,341
06:00-06:59	1,768	2,523	4,291
07:00-07:59	2,669	3,407	6,076
08:00-08:59	1,970	2,440	4,409
09:00-09:59	1,710	2,049	3,759
10:00-10:59	1,707	2,072	3,779
11:00-11:59	1,910	2,126	4,036
12:00-12:59	2,019	2,248	4,267
13:00-13:59	2,144	2,270	4,414
14:00-14:59	2,473	2,437	4,910
15:00-15:59	2,868	2,813	5,680
16:00-16:59	3,562	3,342	6,903
17:00-17:59	3,266	3,144	6,410
18:00-18:59	2,006	2,124	4,129
19:00-19:59	1,489	1,346	2,835
20:00-20:59	1,311	1,077	2,388
21:00-21:59	1,176	828	2,004
22:00-22:59	661	500	1,161
23:00-23:59	313	267	580

Raw coverage count data

Relationships

	A	B	C
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
00:00-00:59	0.2%	148%	155%
01:00-01:59	0.3%	126%	126%
02:00-02:59	0.3%	109%	104%
03:00-03:59	0.5%	75%	51%
04:00-04:59	1.3%	45%	27%
05:00-05:59	3.1%	35%	22%
06:00-06:59	5.6%	29%	16%
07:00-07:59	7.9%	34%	20%
08:00-08:59	5.8%	65%	42%
09:00-09:59	4.9%	97%	76%
10:00-10:59	4.9%	111%	96%
11:00-11:59	5.3%	108%	98%
12:00-12:59	5.6%	105%	99%
13:00-13:59	5.8%	98%	90%
14:00-14:59	6.4%	86%	82%
15:00-15:59	7.4%	72%	70%
16:00-16:59	9.0%	60%	58%
17:00-17:59	8.4%	63%	57%
18:00-18:59	5.4%	84%	75%
19:00-19:59	3.7%	96%	85%
20:00-20:59	3.1%	98%	75%
21:00-21:59	2.6%	114%	68%
22:00-22:59	1.5%	126%	64%
23:00-23:59	0.8%	144%	68%

*Weekend Trends derived from ATR 441218

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	166	246	257
01:00-01:59	223	280	280
02:00-02:59	249	273	259
03:00-03:59	387	291	196
04:00-04:59	928	416	250
05:00-05:59	2,190	757	472
06:00-06:59	4,015	1,184	650
07:00-07:59	5,686	1,922	1,124
08:00-08:59	4,126	2,676	1,733
09:00-09:59	3,517	3,429	2,663
10:00-10:59	3,536	3,943	3,379
11:00-11:59	3,777	4,088	3,714
12:00-12:59	3,993	4,210	3,937
13:00-13:59	4,131	4,058	3,727
14:00-14:59	4,595	3,969	3,764
15:00-15:59	5,316	3,853	3,721
16:00-16:59	6,460	3,908	3,766
17:00-17:59	5,999	3,783	3,419
18:00-18:59	3,864	3,229	2,890
19:00-19:59	2,653	2,539	2,249
20:00-20:59	2,235	2,190	1,674
21:00-21:59	1,875	2,134	1,280
22:00-22:59	1,086	1,372	694
23:00-23:59	542	783	370
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)				Totals
Volume in Hours with > 1000 vph/ln	201,638	12,356	0	213,994
Total Volume	357,750	55,534	46,467	459,751
				47%

Figure 4.01-12 High-Volume Hour Proportion Sample Calculation

Attachment D summarizes the two-way AADT volumes and percent high-volume hour results for the existing conditions. Attachment E shows the percent high-volume hour worksheets for the existing conditions analysis.

3. Weigh Station Service Ramps

The weigh station in the study corridor is located along I-41 just south of the CTH U interchange, in the village of Wrightstown near the Outagamie County and Brown County line. WisDOT NER coordinated with WisDOT DSP to obtain data on the amount traffic using the facility and when it was open. In 2018, the SWEF was open for approximately 230 days. When open, the SWEF was in operation up to 12 hours per day with an average of approximately 150 trucks per day using the facility.

For the existing conditions analysis, a comparative analysis was performed to evaluate crash prediction results with the SWEF open and with the SWEF closed.[3] The differences in the existing crash prediction results were negligible. The project team decided for that the purposes of the overall study, the SWEF ramps should be considered open because in recent years the facility is typically open for more days than it is closed.

WisDOT DSP indicated in March 2019 that there are no current plans to upgrade the SWEF facility. For this reason, exit and entrance ramp volumes of 150 trucks per day were used for both the existing and future conditions IHSDM analysis.

[3] Crash prediction results were compared using exit and entrance ramp volumes of 150 vehicles per day (vpd) (SWEF open) versus exit and entrance ramp volumes of 1 vpd (SWEF closed). A ramp volume of 0 vpd was tested in IHSDM, but resulted in many errors throughout the corridor and unrealistic crash prediction results. While the HSM (Page 19-29) does not indicate that a value of 0 vpd is unacceptable; the IHSDM validation checks indicate that service ramp AADT volumes must have a minimum value of 1 vpd. It should be noted that the IHSDM software does not prevent a user from entering and analyzing 0 vpd for a ramp volume.

SECTION 5
ALTERNATIVES ANALYSIS METHODOLOGY

5.01 ALTERNATIVES ANALYSIS METHODOLOGY

A. Future No-Build Alternative

1. Geometric Elements

The geometric elements of the Future No-Build Alternative remained the same as the existing conditions for the safety analysis.

2. Traffic Volume Data

The only changes between the existing conditions and future conditions analyses were related to traffic volumes. As discussed in Section 2, balanced daily traffic forecast volumes were prepared for 2028 and 2048 No-Build conditions.

Table 5.01-1 shows a breakdown of two-way traffic volumes for representative locations throughout the corridor for 2018, 2028, and 2048 No-Build conditions.

Location Along I-41 Mainline	No-Build Two-Way AADT Volumes (vpd)		
	2018	2028	2048
STH 125 to STH 96	67,400	73,400	85,900
STH 15 to STH 47	68,350	75,200	89,900
CTH E to STH 441	73,650	79,850	93,400
CTH N to STH 55	58,800	63,250	72,750
CTH U to CTH S	55,050	59,550	68,850

Table 5.01-1 No-Build AADT Volumes Along I-41

High-volume hour proportions were calculated in a similar manner as the existing conditions for the Future No-Build Alternative. Table 5.02 shows a summary of the high-volume hour proportions at representative locations along the corridor.

Location Along I-41 Mainline	# of Lanes	No-Build High Volume Hour Proportions		
		2018	2028	2048
STH 125 to STH 96	6	0.00	0.13	0.26
STH 15 to STH 47	4	0.40	0.56	0.78
CTH E to STH 441	4	0.64	0.69	0.79
CTH N to STH 55	4	0.26	0.31	0.42
CTH U to CTH S	4	0.26	0.26	0.42

Table 5.01-2 No-Build High-Volume Hour Proportions Along I-41

The high-volume hour proportions generally align with the observed and modeled congestion along the corridor, where the most congested location (and the largest high volume hour proportions) along the mainline are between STH 15 and STH 441.

Attachment F summarizes the two-way AADT volumes and percent high-volume hour results for the 2028 and 2048 No-Build conditions. Attachment G includes the future conditions percent high-volume hour worksheets for each horizon year.

Service and system ramp volumes for the Future No-Build Alternative are schematically shown in Attachment F. As mentioned previously in Section 4-H, the weigh station ramp volumes were assumed to be equal (150 vpd) in the existing and future conditions analysis.

a. Peak Spreading

Peak spreading is a concept where drivers shift departure times during a congested peak period in order to more reliably reach their destination. For example, if a weekday PM peak hour (4 to 5 P.M.) along a roadway is typically heavily congested and travel is unreliable, some drivers may choose to travel the roadway 15 to 30 minutes before 4 P.M. or 15 to 30 minutes after 5 P.M. This would reduce the amount of traffic volume that occurs during the PM peak hour and increase the amount of traffic volume that occurs during the hours bordering the peak hours.

The operations analysis for the I-41 study included an evaluation peak spreading for the projected 2048 No-Build conditions within the modeled three-hour AM and PM peak periods. The study team discussed if peak spreading would be appropriate to assume for the IHSDM analysis as well. Preliminary discussions on the amount of traffic volume that may shift during the weekday AM and PM peak periods was discussed with WisDOT NER and BTO; however, the traffic data for high volume hour calculation is not refined enough for a detailed analysis of peak spreading. Limitations identified with a potential peak spreading analysis for the crash prediction effort include the following:

- The precise threshold used in the high-volume hour calculation (1,000 vphpl) is sensitive to changes in hourly volumes. For example, in a four-lane section, a traffic volume of 4,001 vph would be considered congested and a traffic volume of 3,999 vph would not be considered congested.

- The calculation considers hour-by-hour volumes across the day, while peak spreading may occur in smaller, 15 to 30 minute increments.

- The amount of peak spreading may vary location by location.

- The level of peak spreading that may occur on weekends is unknown.

WisDOT NER and BTO recommended that the crash prediction analysis would not need to include a scenario for peak spreading at this time based on the analysis limitations discussed above.

3. Crash Prediction Methodology

Similar to the existing conditions, the E-B Method is applicable to the Future No-Build Alternative analysis along the I-41 mainline and intersections. Because the No-Build Alternative serves as the basis of comparison for the build alternatives in this study, the Future No-Build Alternative was evaluated using both the E-B Method and Predictive Method. The E-B Method was performed using both I-41 mainline crash data sets as described in Section 4-E.

The crash prediction results are discussed in Section 8 of this memorandum.

B. Short-Term Build Alternative

1. Geometric Elements

Mainline acceleration lane extensions at five locations and ramp terminal intersection improvements at three interchanges were considered for the Short-Term Build Alternative. These locations are shown in Figure 5.01 and are described further in the sections that follow.

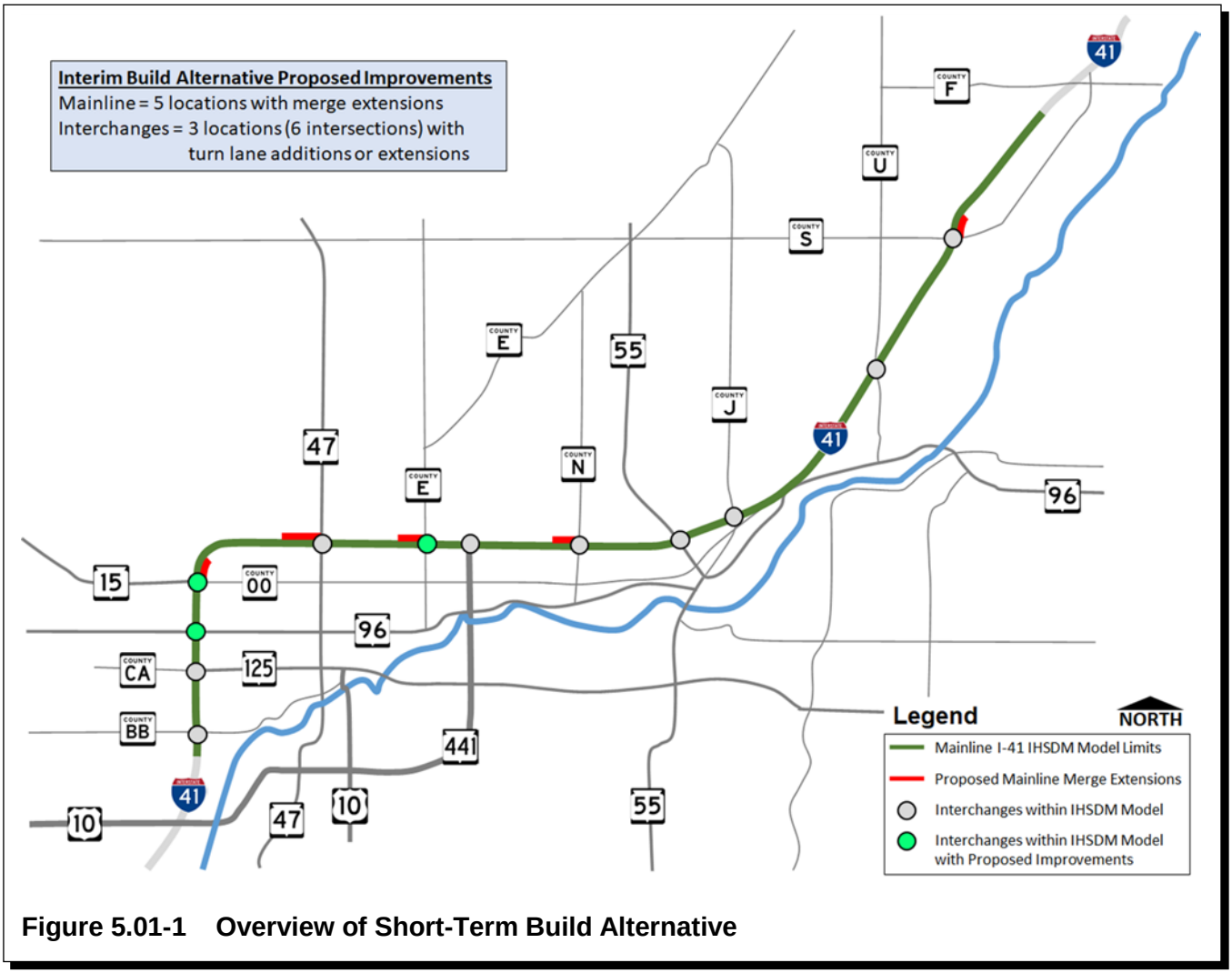


Figure 5.01-1 Overview of Short-Term Build Alternative

a. Mainline Acceleration Lane Extensions

The acceleration lane additions and extensions were determined through the traffic operations analysis and geometric feasibility with the goal to keep the improvements low-cost and low-impact. The improvements modeled in IHSDM match the merge lengths provided by HNTB during the study's alternatives workshop meeting held on June 27, 2019.

The locations considered for merge-lane extensions are shown in Figure 5.01-1 and details regarding the coding for IHSDM are shown in Table 5.01-3.

I-41 Acceleration Lane Addition or Extension	Gore to Taper Lengths (feet)		Station Range for Evaluations
	Existing	Short-Term Alt *(Extension Length)*	
STH 15 northbound	890	1,050 *(+160)*	603+65 to 614+15
STH 47 southbound	1,470	2,500* *(+1,030)*	710+85 to 735+85
CTH E southbound	680	1,560 *(+880)*	828+70 to 844+30
CTH N southbound	580	1,560 *(+980)*	990+40 to 1006+00
CTH S northbound	580	960 *(+380)*	1584+60 to 1594+20

*Merge coded as a through lane because the gore-to-taper length exceeds 0.30 miles (1,584 feet)

Table 5.01-3 Short-Term Build Alternative–Mainline Merge Details

As mentioned previously, the threshold at which a gore-to-taper length should be considered a through lane per the HSM definitions is 0.30 miles, or 1,584 feet. In the existing conditions and the Short-Term Build Alternative, the STH 47 southbound merge is over 0.30 miles and is, therefore, coded as a through lane. In the Short-Term Build Alternative, the CTH E southbound merge and CTH N southbound merge are each proposed to be 1,560 feet, or within 25 feet of the 0.30-mile threshold to be considered as a through lane. Because this length is so close, the study team evaluated the CTH E and CTH N southbound acceleration lane extensions both as long merges (a 1,560-foot gore-to-taper length) and as through lanes (a 1,200-foot through lane with a 360-foot taper length).

b. Ramp Terminal Intersection Improvements

As shown in Figure 5.01-1, ramp terminal intersection improvements were evaluated at the STH 96, STH 15, and CTH E interchanges for the Short-Term Build Alternative. Geometry was coded to match that of the Vissim modeling performed by HNTB. A summary of the improvements coded into the IHSDM models is listed below:

(1) STH 96 Interchange

(a) Both ramp terminals: Additional westbound through lane.

(b) Northbound ramp terminal: Additional northbound right-turn lane. Convert right-turn control from yield to signalized.

(c) Southbound ramp terminal: Additional southbound right-turn lane.

(2) STH 15 Interchange

(a) Northbound ramp terminal: Additional northbound and eastbound left-turn lanes. Additional receiving lane for northbound onramp. Added westbound through lane that serves as a look-ahead westbound left-turn at the southbound ramp terminal.

(b) Southbound ramp terminal: Additional southbound right-turn lane and look-ahead westbound left-turn lane. Various storage length extensions.

(c) To accommodate these improvements, lane widths and shoulder widths along STH 15 between the ramp terminal intersections were reduced.

(3) CTH E interchange

(a) Northbound ramp terminal: Additional northbound right-turn lane. Convert right-turn control from yield to signalized. Various storage length extensions.

(b) Southbound ramp terminal: Additional southbound right-turn lane. Convert right-turn control from yield to signalized. Various storage length extensions.

2. Traffic Volume Data

The Short-Term Build Alternative traffic operations and IHSDM analyses use the projected No-Build traffic volumes for evaluating the alternative.

In the existing and No-Build conditions, locations with gore-to-taper lengths over 0.30 miles that were coded as through lanes did not include an adjustment to high-volume hour calculations to account for an odd number of through lanes. In those conditions, the high-volume hour calculations generally represented the basic number of freeway through lanes (four or six for most of the corridor) at a given location. For the Short-Term Build Alternative analysis, the study team's first draft of the analysis followed the same methodology as the existing conditions and did not adjust high-volume hour calculations based on the acceleration lane improvements.

A sensitivity test was performed that did include an adjustment to the high-volume hour calculations at three of the merges based on the number of through lanes evaluated. This test was performed to provide a range of results for the potential effect of congestion relief, which was found through the traffic modeling effort, within the safety analysis. These locations and the difference in high-volume hour proportions are shown in Table 5.01-4.

Short-Term Build Alternative Improvement	No. of Lanes for High Volume Hour Proportion	High-Volume Hour Proportions	
		2028	2048
STH 47 Southbound Merge	4	0.56	0.78
	5	0.25	0.47
CTH E Southbound Merge	4	0.68	0.79
	5[1]	0.26	0.52
CTH N Southbound Merge	4	0.36	0.62
	5[1]	0.26	0.31

[1] Gore-to-taper length of proposed acceleration lane extension is within 25 feet of meeting the HSM definition to be coded as a through lane.

Table 5.01-4 Short-Term Build Alternative Traffic Volume Sensitivity Test

The high-volume hour calculations for the Short-Term Build Alternative traffic volume sensitivity test are included in Attachment H.

3. Crash Prediction Methodology

The E-B Method is applicable for the I-41 mainline because the number of basic lanes along the corridor does not change compared to existing conditions. Both crash data sets were evaluated for the initial Short-Term Build Alternative analysis and the traffic volume sensitivity test.

For intersections, the E-B Method is applicable for the CTH E ramp terminals and for the STH 15 southbound ramp terminal. The E-B Method is not applicable for the STH 96 ramp terminal intersections and the STH 15 northbound ramp terminal intersection because the number of through lanes is increased compared to existing conditions.

The crash prediction results are discussed in Section 8 of this memorandum.

C. Long-Term Build Alternative

In July 2019, WisDOT NER requested that the Long-Term Build Alternative considered in the previous I-41 Operational Needs Study be re-evaluated by HNTB and Strand in the I-41 Traffic and Engineering Study. The Long-Term Build Alternative considered in the previous study included capacity expansion from six lanes to eight lanes from CTH BB to STH 15 and from four lanes to six lanes from STH 15 to south of CTH F. In general, the additional through lane was added to the left side (toward the median) of the traveled way in each direction along I-41.

The following sections describe the analysis methodology and assumptions used to analyze the Long-Term Build Alternative in IHSDM.

1. Geometric Elements

HNTB provided Strand with the previous study's design files for the Long-Term Build Alternative to use as a basis for the IHSDM modeling effort. Strand combined the previous study's design files with the horizontal alignment file developed for this study's existing conditions IHSDM analysis. This design file with project-specific stationing, along with related Vissim models, were used to develop geometric inputs for the IHSDM analysis of the Long-Term Build Alternative.

The study team worked closely together to account for changes required to the previous study's proposed design as a result of newly found operational issues. The operational issues were identified because of this study having a further-out design year, and generally higher traffic volumes, than the previous study. Based on this coordination, the Long-Term Build Alternative IHSDM model matches the Vissim model developed by HNTB to the extent possible. Some geometric elements, such as taper rates and distances, do not match exactly but are typically not critical to the operations analysis. In these instances, standard taper rates from WisDOT FDM guidance were used for the IHSDM analysis.[1]

Key findings and changes to the original Long-Term Build Alternative related to the I-41 mainline based on the operations modeling include the following:

- The operational need for the proposed westbound Collector-Distributor (C-D) Road between STH 441 and CTH E was confirmed.

- For the westbound C-D road, dual-lane ramps are required for egress and ingress in order to accommodate 2048 forecast volumes.

- The need to expand to eight lanes from CTH BB to STH 15 did not appear to be warranted based on the preliminary traffic operations analysis, which generally represents K250 conditions. Therefore, the study team assumed the existing six-lane section between CTH BB and STH 15 would remain. The revised limits of capacity expansion along I-41 are shown in Figure 5.01-2 for the Long-Term Build Alternative.

[1] FDM 11-30, Attachment 1.1 Single Lane Entrance Terminal. Accessed June 26, 2019.

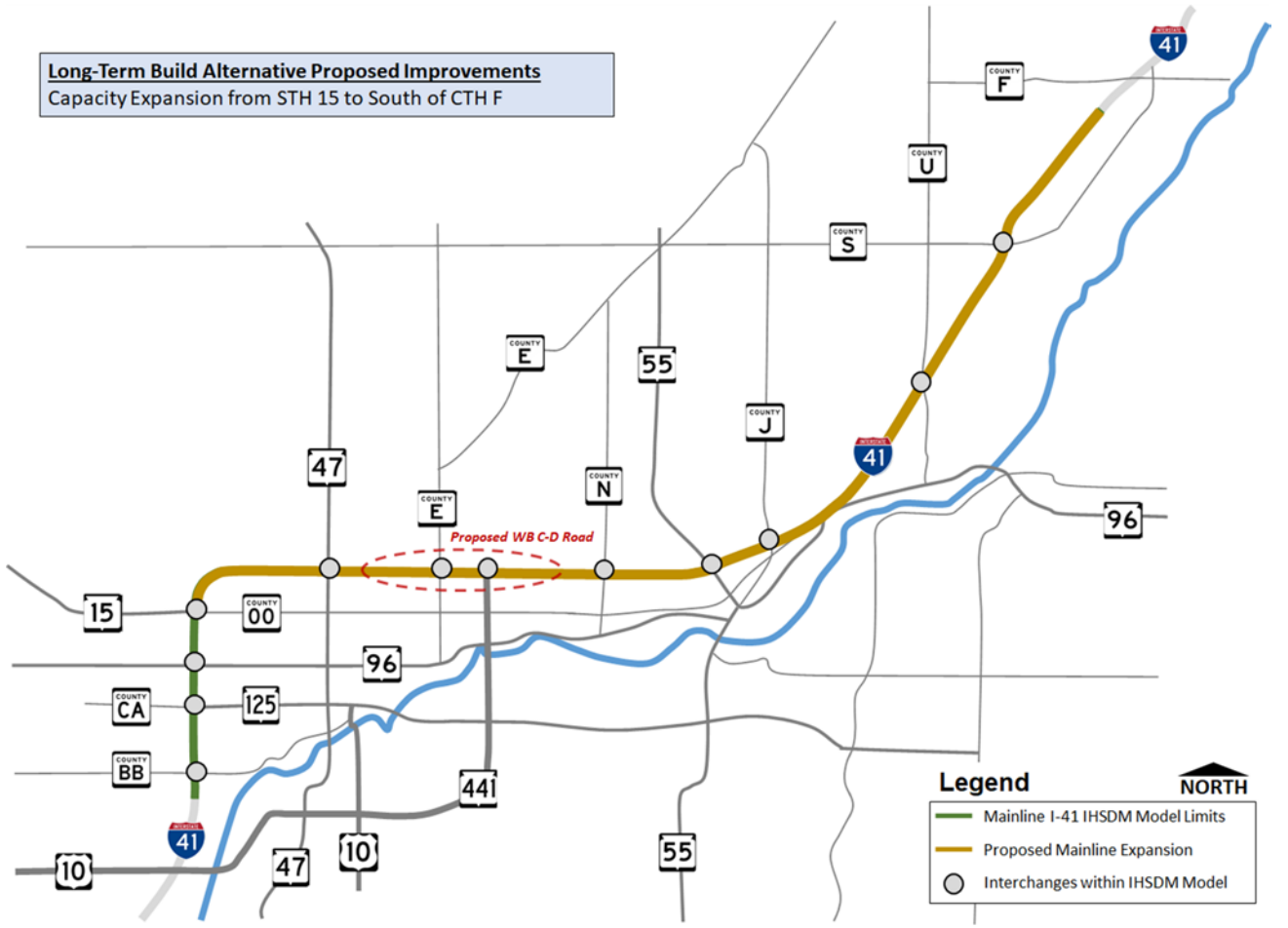


Figure 5.01-2 Overview of Long-Term Build Alternative

- Because the transition area between six lanes and eight lanes is no longer proposed to be around STH 15, the previous design is no longer applicable south of STH 15. For the IHSDM modeling effort, Strand matched the Vissim model around STH 15 (and not the previous design file) to reflect a consistent six-lane concept. South of STH 15, the IHSDM model is similar to existing conditions.

The general expansion concept includes the following cross section characteristics in the existing four-lane sections of the corridor:

- Additional 12-foot general purpose lane in each direction.
- Outside shoulder width expanded to from 10 feet to 12 feet in each direction.
- Inside shoulder width expanded from 4 feet to 14 feet in each direction.
- Median barrier added throughout the corridor.
- Median width reduced from over 50 feet to 8.5 feet.

These cross section characteristics are shown in Figure 5.01-3 for a typical location and in Figure 5.01-4 for a constrained existing location.

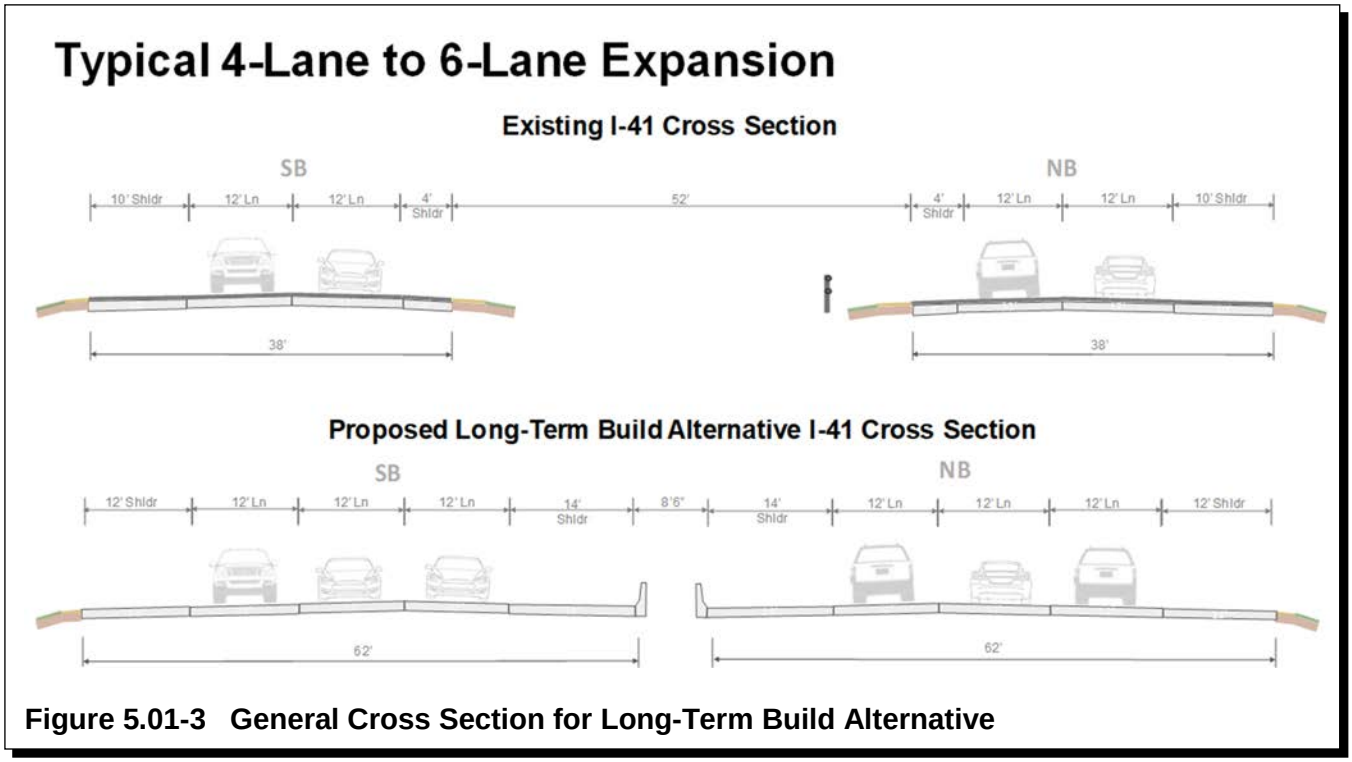


Figure 5.01-3 General Cross Section for Long-Term Build Alternative

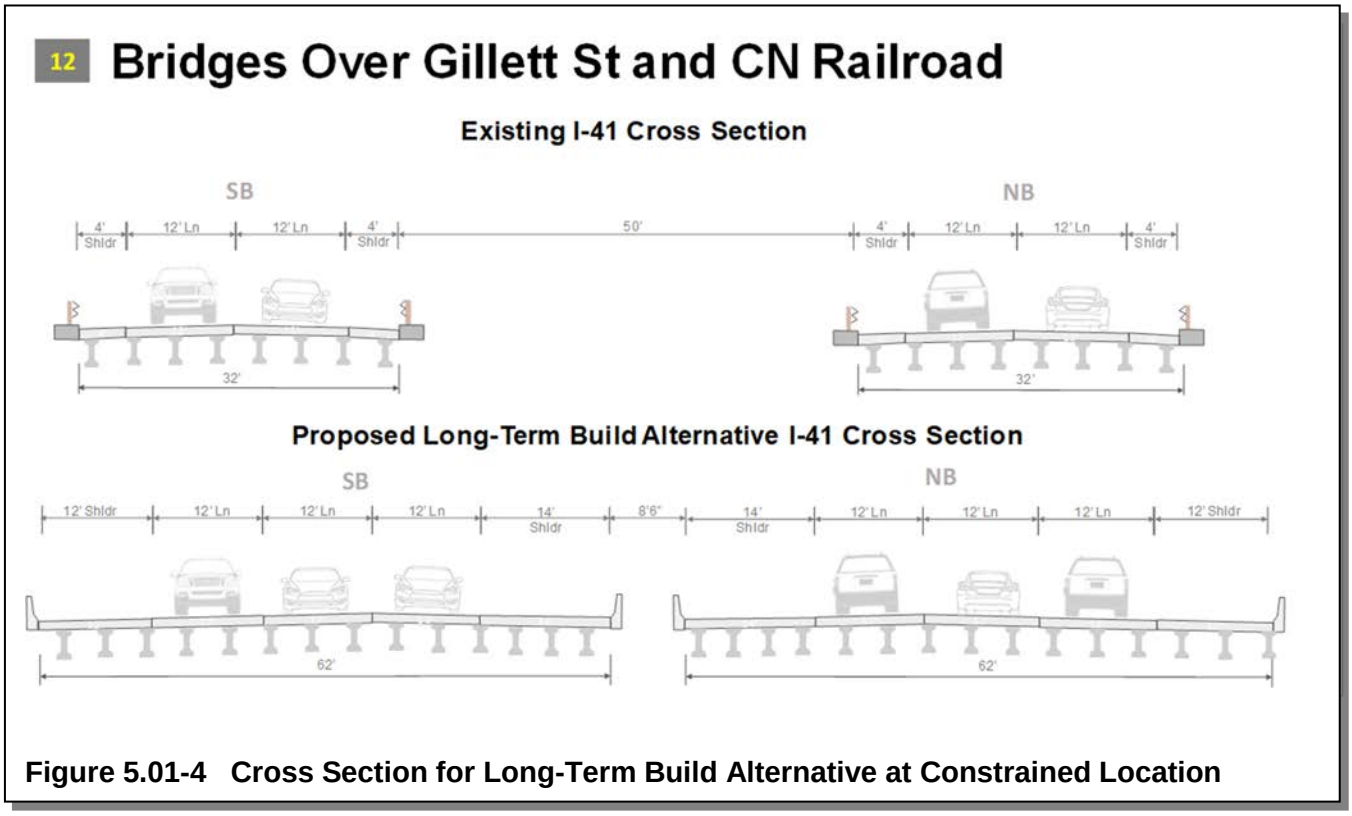


Figure 5.01-4 Cross Section for Long-Term Build Alternative at Constrained Location

To better understand how the proposed geometric characteristics affect the crash prediction calculations in areas of capacity expansion, a representative freeway segment between CTH N and STH 55 was reviewed in detail. This location was chosen as it represents the general four-lane to six-lane capacity expansion shown in Figure 5.01-3 and is a relatively tangent section for both the Future No-Build and Long-Term Build Alternatives. Figure 5.01-5 shows a comparison of the CMFs for the various geometric elements with existing (four-lane, no-build) and proposed (six-lane, build) conditions. Figure 5.01-6 shows the relative differences between CMFs for the Long-Term Build Alternative's various geometric elements compared to the Future No-Build Alternative. Each of these figures shows CMFs for MV and SV FI crashes and PDO crashes.

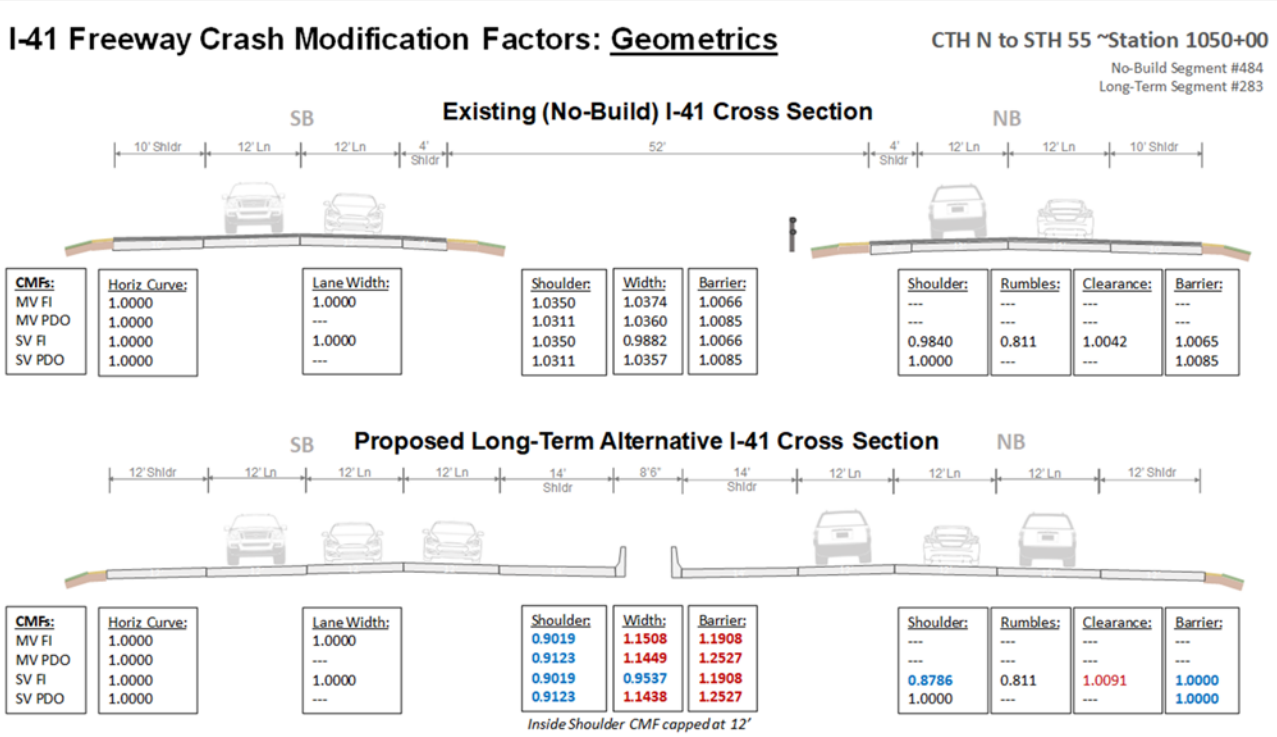


Figure 5.01-5 Geometric CMF Comparison for Representative Capacity Expansion Segment

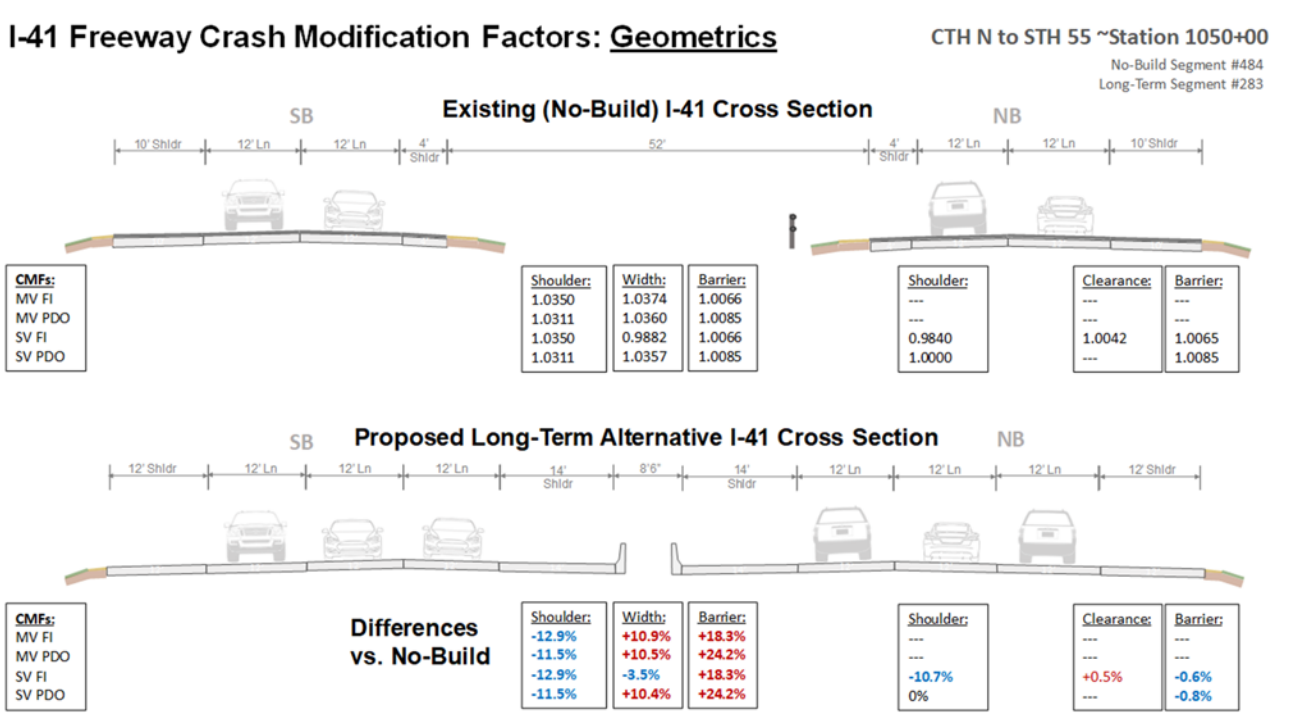


Figure 5.01-6 Relative Comparison of CMFs for Representative Capacity Expansion Segment

Other noteworthy details and assumptions for geometric elements with the Long-Term Build Alternative are as follows:

a. Proposed Westbound C-D Road

A separate alignment was developed in order to model the westbound C-D road between STH 441 and CTH E. The distance between the exit ramp gore from the I-41 mainline (east of STH 441) and the entrance ramp gore back on to the I-41 mainline is approximately 2.7 miles, with no slip ramps to/from the C-D road in-between the gores.

The westbound C-D road design required a shift of the I-41 mainline to the south, which slightly lengthened the mainline alignment in this area due to curvature. For consistency purposes, the mainline alignment was extended by 4 feet at the north end of the model to keep the northern limit the same as the Future No-Build Alternative. When comparing the alternatives directly against one-another east/north of STH 441, there is a difference of 4 feet in stationing for the same physical location.

b. Number of Through Lanes

There is one location meeting the Type B weave through lane criteria (greater than 0.85 miles) in the Long-Term Build Alternative. This location is along I-41 northbound between STH 47 and CTH E, which is an approximately 9,800-foot Type B weaving length. Traffic on I-41 northbound entering the weaving section prior to the STH 47 northbound

merge must change one lane in order to exit to CTH E. Traffic entering from STH 47 does not require a lane change within the weaving section to stay on I-41 northbound.

Eight locations meet the gore-to-taper length through lane criteria (greater than 0.30 miles). These locations are as follows:

- I-41 Northbound Merge from STH 441 = 2,340 feet (Sta. 916+50 to Sta. 93+990)
- I-41 Northbound Diverge to STH 55 = 2,000 feet (Sta. 1091+37 to Sta. 1111+37)
- I-41 Northbound Merge from CTH J = 1,630 feet (Sta. 1195+58 to Sta. 1211+88)
- I-41 Northbound Merge from CTH U = 1,640 feet (Sta. 1420+04 to Sta. 1436+44)
- I-41 Northbound Merge from CTH S = 1,655 feet (Sta. 1578+38 to Sta. 1594+93)
- I-41 Southbound Merge from STH 55 = 1,750 feet (Sta. 1112+57 to Sta. 1095+07)
- I-41 Southbound Merge from CTH U = 1,640 feet (Sta. 1401+44 to Sta. 1385+04)
- I-41 Southbound Merge from CTH S = 1,670 feet (Sta. 1555+90 to Sta. 1539+20)

For these locations, the parallel acceleration or deceleration lane is coded as a through lane and the taper length is coded for visual purposes only. The gore-to-taper length coded in the model is equal to zero for these locations.

c. Weaving Sections

The existing Type A weave along I-41 southbound between STH 441 and CTH E is removed and replaced by a Type C weave between the westbound C-D road and CTH E. In this weaving condition, drivers on the I-41 mainline destined to CTH E must change two lanes to complete their maneuver.

The only additional weave introduced within the study limits is the Type B weave along I-41 between STH 47 and CTH E. This weaving section is also treated as an additional through lane because of its length, which is described in the “Number of Through lanes” section above.

d. Crossroads and Ramp Terminal Intersections

The crossroads and ramp terminal intersections included in the Long-Term Build Alternative IHSDM model are currently the same as the Short-Term Build Alternative. A listing of the crossroads coded within the Long-Term Build and Future No-Build Alternative IHSDM models is shown in Table 5.01-5.

I-41 Interchange	IHSDM Coding Status		
	Crossroad Coded?	Ramp Terminals Coded?	Evaluations Performed?
CTH BB	Yes	Yes	Yes
STH 125	Yes	Yes	Yes
STH 96	Yes	Yes	Yes
STH 15	Yes	Yes	Yes
STH 47	Yes	Yes	No
CTH E	Yes	Yes	Yes
STH 441	*Trumpet interchange (no ramp terminal intersections)*		
CTH N	Yes	Yes	No
STH 55	No	No	No
CTH J	No	No	No
CTH U	No	No	No
CTH S	No	No	No

Note: Crossroads and ramp terminal intersections were included in the I-41 models based on the scope of the safety analysis for the I-41 Traffic and Engineering Study.

Table 5.01-5 Crossroad and Ramp Terminal Intersection Coding Status

The alignments and stationing of many service ramps throughout the corridor were adjusted specifically for the Long-Term Build Alternative for visual purposes only. These visual adjustments had no effect on the I-41 mainline crash prediction analysis.

e. Rumble Strips

As discussed previously in Table 4.01-2, the presence of rumble strips is an input within the inside shoulder and outside shoulder entries in IHSDM. Along existing I-41, rumble strips are generally present along the inside shoulder and are more sporadic along the outside shoulder. At locations with a structure, rumble strips are not present on either shoulder.

For the purposes of analyzing the Long-Term Build Alternative, rumble strips were assumed to be included in the same locations as the existing conditions, which covers most of the corridor.

f. Outside Barrier

The previous study developed layouts that included proposed outside barrier and identified optional locations for outside barrier. For the purposes of the IHSDM analysis, the study team only modeled proposed outside barrier locations.

g. Median Width and Median Barrier

As shown in Figures 5.01-4 and 5.01-5, the introduction of median barrier throughout the corridor and narrowing of the median width throughout the corridor lead to CMF values for median barrier and median width that are greater than the Future No-Build Alternative. Although the CMF value for median width is shown to be increasing (resulting in more crashes) in the Long-Term Build Alternative, previous coordination with the IHSDM support staff had indicated that median width should not affect crash calculations when median barrier is present.

To verify this for the I-41 corridor, the study team performed two tests on a draft of the Long-Term Build Alternative IHSDM model. Median width values of 25 feet and 50 feet (an increase over the proposed 8.5-foot value) from STH 441 to the northern limit from were evaluated. The overall crash prediction values changed by only a few hundredths (or less than a thousandth of a percent) over a 20-year period for each test evaluation. While the median width does not have zero-effect as initially thought, the differences found were negligible.

Spreadsheets summarizing the geometric inputs for the Long-Term Build Alternative are shown in Attachment I. A general comparison of the geometric inputs of the Long-Term Build Alternative and the Future No-Build Alternative is also included in Attachment L.

2. Traffic Volume Data

Balanced daily traffic forecast volumes were prepared by HNTB and WisDOT TFS for 2028 and 2048 Build conditions. Strand followed a similar process as the existing conditions to calculate two-way AADT volumes and high-volume hour proportions for the various traffic volume segments along the corridor.

Table 5.01-6 shows a comparison of the projected AADT volumes at representative locations along the corridor between the No-Build and Long-Term Build Alternatives.

Location Along I-41 Mainline	2028 AADT Volumes (vpd)			2048 AADT Volumes (vpd)		
	No-Build	Build	% Diff.	No-Build	Build	% Diff.
STH 125 to STH 96 (no capacity expansion)	73,400	73,400	0%	85,900	90,500	+5%
STH 15 to STH 47	75,200	75,200	0%	89,900	99,600	+11%
CTH E to STH 441	79,850	I-41 = 60,350 C-D = 19,500	I-41 = -24% Total = 0%	93,400	I-41 = 79,100 C-D = 25,750	I-41 = -15% Total = +12%
CTH N to STH 55	63,250	63,250	0%	72,750	83,650	+15%
CTH U to CTH S	59,550	59,550	0%	68,850	77,950	+13%

Table 5.01-6 No-Build and Build (+1 Lane) Two-Way AADT Volume Comparison

Table 5.01-7 shows a comparison of the high-volume hour proportions at representative locations along the corridor between the No-Build and Long-Term Build Alternatives.

Location Along I-41 Mainline	2028 High Volume Hour Proportions			2048 High Volume Hour Proportions		
	No-Build	Build	Abs Diff.	No-Build	Build	Abs Diff.
STH 125 to STH 96 (no capacity expansion)	0.13	0.13	0.00	0.26	0.31	+0.05
STH 15 to STH 47	0.56	0.20	-0.36	0.78	0.30	-0.58
CTH E to STH 441	0.69	I-41 = 0.00 C-D = N/A	-0.69	0.79	I-41 = 0.25 C-D = N/A	-0.54
CTH N to STH 55	0.31	0.00	-0.31	0.42	0.26	-0.16
CTH U to CTH S	0.26	0.00	-0.26	0.42	0.20	-0.22

Table 5.01-7 No-Build and Build (+1 Lane) High-Volume Hour Proportion Comparison

Additional items to note and assumptions related to the traffic inputs include the following:

- Modifications were needed to the physical limits of the traffic volume segments because of modified gore locations of many of the service ramps in the Long-Term Build Alternative.

- Locations with long merges (greater than 0.30 miles) are coded as through lanes according to the HSM definitions, but the high-volume hour calculations are not adjusted

to account for this condition (for example, adjusting the calculation to reflect seven lanes instead of six lanes).

- High-volume hour proportion calculations are only applicable to the freeway mainline and are not required for the westbound C-D road crash prediction analysis.

To better understand how the increase in AADT volumes and reduction in high-volume hour proportions affect the crash prediction calculations in areas of capacity expansion, the representative freeway segment between CTH N and STH 55 used for the geometric CMF comparison was also used for a traffic data CMF comparison. This location was chosen as it represents the generally typical four-lane to six-lane capacity expansion. Figure 5.01-7 shows a comparison of, and relative difference between, the traffic-related CMFs for various forecast years over a 20-year period. Similar to the geometric CMF comparisons, this figure shows CMFs for MV, SV, FI, and PDO crashes.

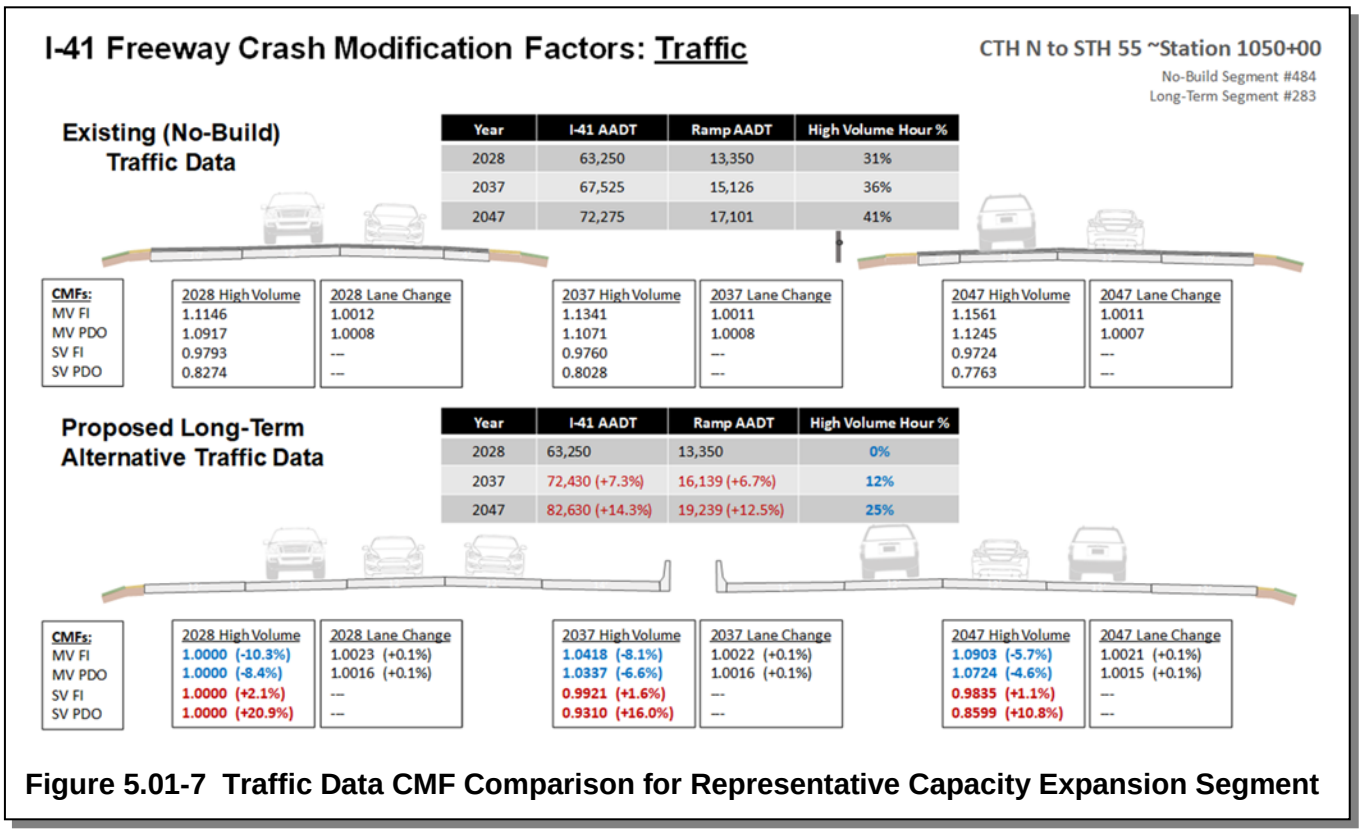


Figure 5.01-7 Traffic Data CMF Comparison for Representative Capacity Expansion Segment

Attachment J summarizes the two-way AADT volumes and percent high-volume hour results for the 2028 and 2048 Long-Term Build Alternative. Attachment K includes the high-volume hour worksheets for each horizon year of the Long-Term Build Alternative. A general comparison of the traffic inputs of the Long-Term Build Alternative and the Future No-Build Alternative is also included in Attachment L.

3. Crash Prediction Methodology

The E-B Method is not applicable for analysis of the I-41 mainline in the Long-Term Build Alternative because the number of basic lanes along the corridor changes for the majority of the corridor compared to existing conditions. Therefore, the Predictive Method was used to compare the relative differences between the Long-Term Build Alternative and the Future No-Build Alternative.

A sensitivity test related to the presence of median barrier along the corridor was performed for the Future No-Build Alternative with the purpose of comparing results to the Long-Term Build Alternative. This sensitivity test assumed that median barrier is present along 99 percent of the corridor for both directions of travel by considering the opposing median barrier in the median barrier inputs. The opposing direction of travel's median barrier was set to a value of 17 feet to match the maximum applicable range of the median barrier CMF. These results should only be considered as a sensitivity test, as the median barrier should only be associated with the freeway if it is within 30 feet from the leftmost travel lane. Further information on the existing median barrier presence is included in Section 4.01.G.

The crash prediction results are discussed in Section 8 of this memorandum.

SECTION 6
MEETINGS, REVIEWS, AND COORDINATION

6.01 MEETINGS, REVIEWS, AND COORDINATION

A. Meetings

WisDOT hosted weekly teleconference meetings throughout the course of this study. The purpose of these meetings was for WisDOT NER, BTO, and TFS staff to provide direction and clarification for ongoing project issues and decision points. Strand and HNTB typically provided status updates, communicated data needs, and reviewed the study schedule with WisDOT staff. The coordination meetings were held from March to August 2019. A decision log was kept at each weekly meeting noting decisions that were made throughout the project. Many of the decisions included in the decision log related to the IHSDM analysis are documented in this memorandum. Attachment M includes the most recent decision log for the project (as of August 18, 2019).

An alternatives workshop was held on June 27, 2019 between WisDOT NER, BTO traffic analysis review staff, and the consultant teams primarily to review initial findings for the Short-Term Build Alternative. This meeting included discussion on next steps and methodology to analyze the Long-Term Build Alternative. WisDOT NER provided guidance that the goal of the Long-Term Build Alternative analysis for this study would be to stay as consistent with the previous study as possible unless traffic operations dictated otherwise.

B. WisDOT Reviews

The base, No-Build, Short-Term Build, and Long-Term Build Alternative IHSDM models and supporting documents were submitted to WisDOT NER and BTO for review at various points throughout the study. Questions and review comments were generally discussed through e-mail and weekly meetings and documented in the decision log document. Correspondence with WisDOT on IHSDM model reviews and submittals is included in Attachment N.

C. IHSDM Technical Support

The IHSDM technical support team was contacted occasionally during the study to troubleshoot issues with the software or to assist in best practices with coding methodologies. Correspondence with the technical support team is included in Attachment N.

SECTION 7
ANALYSIS AND SOFTWARE LIMITATIONS

7.01 ANALYSIS AND SOFTWARE LIMITATIONS

A. Corridor-Specific and Statewide Limitations

The following describes limitations for the I-41 IHSDM analysis.

1. SPF and Severity Distribution Function (SDF) Limitations

   a. There are currently no SPFs calibrated to Wisconsin data. This means the predicted or expected number of crashes from this analysis should only be interpreted in the context of the analysis goals. The results of this study's analysis are intended to represent the relative differences between the No-Build and Build Alternatives.

   b. There are currently no freeway SDFs calibrated to Wisconsin data. The severity distribution of predicted or expected FI crashes in this study analysis are based on default distributions within the IHSDM and HSM.

   c. The IHSDM automatically selects the appropriate SPF when performing the crash prediction calculations. The range of alternatives in this study includes the use of four-lane and six-lane Urban and Rural Freeway SPFs. Since different facility types are being modeled, multiple calibration factors for SPFs would be needed. The magnitude of these factors would impact the overall predicted safety performance.

   d. SPFs for freeways only consider both directions of travel. This makes the analysis more challenging for sections of freeway with odd numbers of lanes.

2. CMF Limitations

   The CMFs used in the IHSDM analysis are each published in the HSM. For some geometric features there is typically a range of applicable values for a CMF.

   An example of a value above the applicable CMF range occurs along most of the corridor with the Long-Term Build Alternative. The applicable range for the inside shoulder width CMF is 2 to 12 feet based on Page 18-37 of the HSM. The proposed inside shoulder width for the Long-Term Build Alternative is 14 feet, or 2 feet greater than the maximum applicable range of the CMF. The IHSDM automatically adjusts inside shoulder width values that are over 12 feet to the maximum applicable value of 12 feet, meaning that within the software the proposed 14-foot inside shoulder has the same safety performance as a 12-foot inside shoulder. It is unknown if this wider shoulder would provide more benefit in terms of safety performance.

3. Traffic Operations

There are several limitations of the IHSDM related to traffic operations for freeway systems.

a. Bottlenecks–Alleviating a bottleneck could create downstream effects that cannot be accounted for with current safety analysis methods. Recurring congestion on the I-41 corridor occurs during the morning and evening weekday peak periods, particularly between STH 15 and STH 441. Nonrecurring congestion occurs because of incidents, disabled vehicles, weather, and special events. Traffic modeling has shown that the weekday peak period operation levels on several I-41 sections could improve by one or more Level of Service (LOS) grades with the implementation of the Short-Term or Long-Term Build Alternative improvements.

b. Intersection Queues–Conditions where queues from an interchange ramp terminal extend to the mainline are not captured with this analysis. This type of operation is occasionally observed at some interchange locations on the I-41 corridor in the modeling of Future No-Build conditions (such as at the STH 15 SB ramp terminal), which generally creates a more dangerous situation for drivers.

c. Per-lane Volumes and Congested Hours (Existing and No-Build)–The high-volume hour proportion calculation may not fully capture the magnitude of the congestion occurring within the existing condition and projected for the No-Build condition. The high-volume hour calculation identifies volumes above 1,000 vphpl as congested. There are several locations along the I-41 corridor where per-lane volumes were found to be 1,700 to 1,800 vphpl during peak periods based on 2016 traffic counts. This could indicate that the number of crashes predicted in the existing and no-build conditions is underestimated by the model, which is supported by the existing conditions E-B Method and comparison to observed crash data between STH 15 and STH 441 (discussed further in Section 8.01.A).

4. Barrier Type

Differences in barrier type are not distinguished in the Predictive Method in terms of their possible different influences on crash severity (HSM pages 18 to 56). This means that the differences in crash performance between guardrail, cable guard, and concrete barrier are not specified in the crash prediction analysis.

B. General Limitations

The following are general limitations and cautions to consider as noted in the IHSDM Help Menu. These same general limitations and cautions are applicable to the I-41 IHSDM analysis.

1. From the “Overview of IHSDM” Section

    a. IHSDM is intended as a supplementary tool to augment the design process. This tool is designed and intended to predict the functionality of proposed or existing designs by applying chosen design guidelines and generalized data to predict performance of the design. This tool is not a substitute for engineering judgment and does not create a standard, guideline, or prescriptive requirement that can be argued to create any standard of care upon a designer, highway agency or other governmental body or employee. The use of this tool for any purpose other than to aid a qualified design engineer in the review of a set of plans is beyond the designed scope of this tool and is not endorsed by FHWA.

    b. Measures of expected safety and operational performance from IHSDM are only a subset of the large number of inputs that must be considered in making design decisions.

    c. Estimates from IHSDM are expected values; in the statistical sense, they represent the estimated average performance over a long time period and among a large number of sites with similar characteristics. Actual performance may vary over time and among sites. The estimates from IHSDM should not substitute for, but rather should supplement and complement local knowledge.

    d. While derived from the best available data using the best available methods, both the available data and methods have limitations. The engineer's manuals for each module document limitations that should be understood to apply appropriately the resulting estimates.

2. From the “Overview of the Crash Prediction Module” Section

    a. "Safe" does not mean an expected crash frequency estimate of zero. Conversely, a non-zero expected crash frequency estimate does not mean a highway is "unsafe." No highway that carries any amount of traffic will have an expected crash frequency of zero.

    b. There is no accepted "standard" for what is a good or acceptable expected crash frequency. A good starting point for comparison may be the jurisdiction-wide average crash frequency for similar highways at similar traffic volume levels, assuming the jurisdiction has developed and input its calibration factors.

    c. While the focus of the IHSDM Crash Prediction Module is highway and intersection geometry and traffic control, these elements account for a relatively

small proportion of the variation in crash experience along a given highway and among different highways. In making comparisons, consideration must be given to local knowledge of the effect of other variables "including, but not limited to, climate, terrain, animal population, driver population" that may also contribute to above or below average crash experience. In making judgments, it must be recognized that many of the factors contributing to crash experience are beyond the control of the project decision maker.

SECTION 8
PRELIMINARY RESULTS

8.01 PRELIMINARY RESULTS

The following I-41 alternatives were considered and modeled in IHSDM:

1. Existing Conditions: Evaluated using the E-B Method and Predictive Method.

2. Future No-Build Alternative: Evaluated using the E-B Method and Predictive Method.

3. Short-Term Build Alternative: Crash prediction results compared to No-Build using the E-B Method, where applicable.

4. Long-Term Build Alternative: Crash prediction results compared to No-Build using the Predictive Method.

The existing conditions represents the 2013 to 2017 five-year time period. The No-Build and Short-Term/Long-Term Build Alternatives were evaluated for a 2028 to 2037, or ten-year, timeframe as recommended by WisDOT NER staff.

The analysis for the Long-Term Build Alternative was broken up into ten analysis segments generally between 2 and 3 miles long, as shown in Figure 8.01-1. Table 8.01-1 provides more detail on the exact stationing, limits, and key notes for each analysis segments.

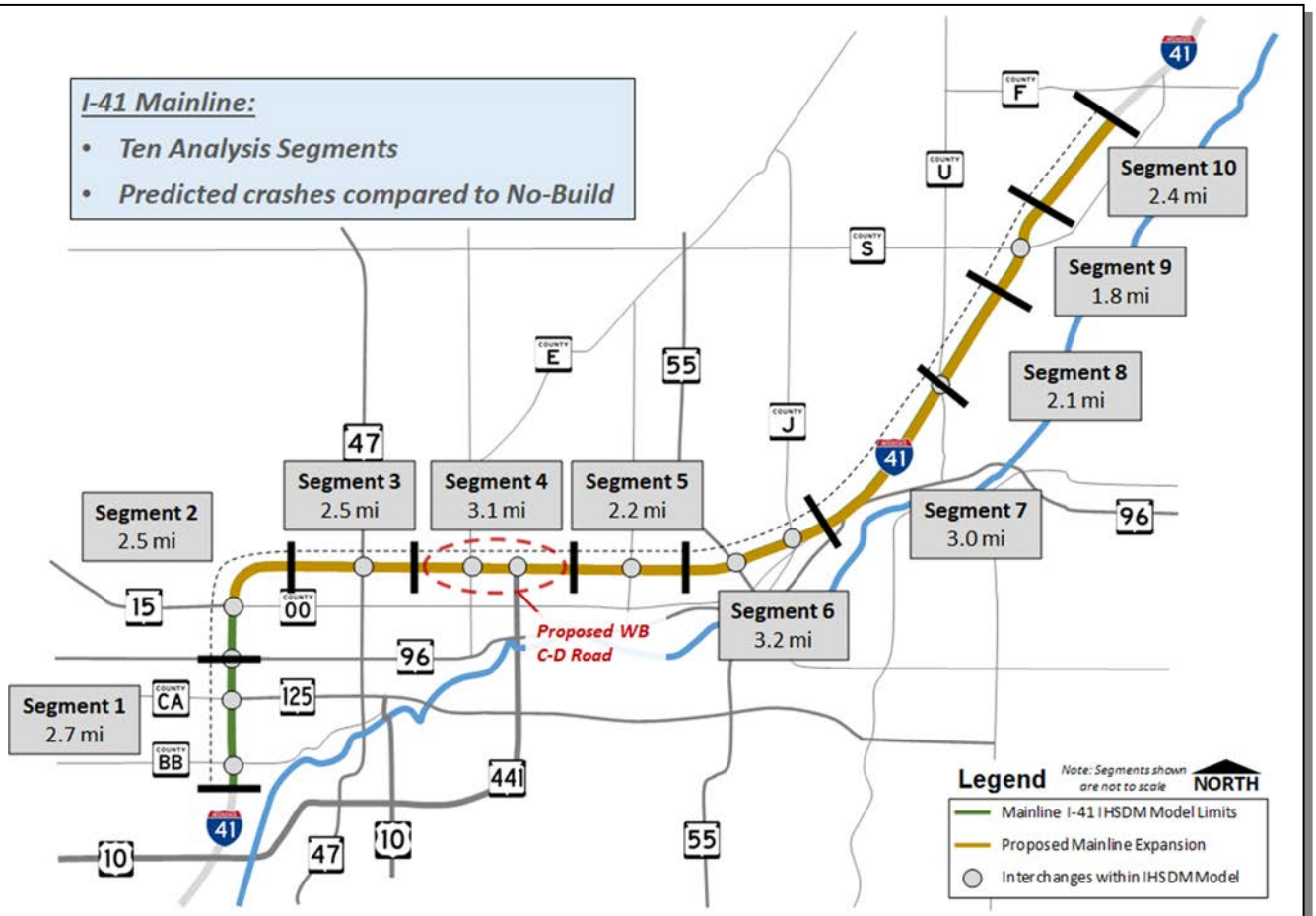


Figure 8.01-1 Analysis Segments for Long-Term Build Alternative

Analysis Segment #	Stationing	Physical Limits	Interchange Based Limits	Long-Term Build Alternative Analysis Segment Notes
1	392+00 to 536+25	South of CTH BB to STH 96 Bridge	South of CTH BB to STH 96	Minimal geometry changes and increased AADT volumes. South of anticipated Major Study limits.
2	536+25 to 668+00	STH 96 Bridge to Lyndale Drive Bridge	STH 96 to North of STH 15	Segments 2 and 3 represent a typical four-lane to six-lane expansion in Outagamie County. Hot spot for existing congestion.
3	668+00 to 800+00	Lyndale Drive Bridge to Meade Street Bridge	North of STH 15 to West of CTH E	
4	800+00 to 963+20	Meade Street Bridge to Holland Road Bridge	West of CTH E to East of STH 441	Includes the extents of the proposed westbound C-D road.
5	963+20 to 1081+70	Holland Road Bridge to Rose Hill Road Bridge	East of STH 441 to West of STH 55	Segments 5-7 represent a typical four-lane to six-lane expansion in Outagamie County.
6	1081+70 to 1250+80	Rose Hill Road Bridge to CTH JJ Bridge	West of STH 55 to East of CTH J	
7	1250+80 to 1410+90	CTH JJ Bridge to CTH U Bridge	East of CTH J to CTH U	
8	1410+90 to 1520+50	CTH U Bridge to Williams Grant Drive	CTH U to South of CTH S	Segments 8 through 10 represent the Brown County portion of the corridor (Outagamie County line is at CTH U).
9	1520+50 to 1612+70	Williams Grant Drive to Little Rapids Road Bridge	South of CTH S to North of CTH S	
10	1612+70 to 1736+57	Little Rapids Road Bridge to South of CTH F	North of CTH S to South of CTH F	
Subtotal 1	392+00 to 668+00	South of CTH BB to Lyndale Drive Bridge	South of CTH BB to North of STH 15	Segments 1 and 2
Subtotal 2	668+00 to 963+20	Lyndale Drive Bridge to Holland Road Bridge	North of STH 15 to East of STH 441	Segments 3 and 4
Subtotal 3	963+20 to 1410+90	Holland Road Bridge to CTH U Bridge	East of STH 441 to CTH U	Segments 5 through 7
Subtotal 4	1410+90 to 1736+57	CTH U Bridge to South of CTH F	CTH U to South of CTH F	Segments 8 through 10

Table 8.01-1 Analysis Segments for Long-Term Build Alternative

The preliminary results for this study have focused on the ***relative difference*** of predicted or expected crashes for various alternatives. The following comparisons have been completed and are presented in the rest of this section:

- Existing Conditions: Observed versus Predicted versus Expected Crashes
- Future No-Build versus Existing Conditions
- Short-Term Build versus Future No-Build Conditions
- Long-Term Build versus Future No-Build Conditions

A. Existing Conditions: Observed Versus Predicted Versus Expected Crashes

Using the ten analysis segments shown in Figure 8.01-1 and Table 8.01-1, the study team analyzed the existing conditions IHSDM model for a five-year time period (2013 to 2017) to understand how the observed, predicted, and expected crashes relate. Tables 8.02-1 shows the result of the existing conditions analysis for Total, FI, and PDO crashes. Figures 8.01-2 and 8.01-3 graphically show the observed crash data versus the existing conditions analysis results for Total and FI crashes, respectively.

Table 8.01-2 Existing Conditions Analysis Results

Analysis Segments		Total Crashes			Fatal and Injury (FI) Crashes			Percent Differences (Exp - Pred) / Pred	
Segment	Dist (mi)	Observed	Predicted	Expected	Observed	Predicted	Expected	Total	FI
South of CTH BB to STH 96	2.7	369	219.0	292.3	106	65.5	78.4	33%	20%
STH 96 to North of STH 15	2.5	284	179.9	234.2	59	56.2	56.6	30%	1%
North of STH 15 to West of CTH E	2.5	192	182.6	192.0	42	57.5	53.7	5%	-7%
West of CTH E to East of STH 441	3.1	274	215.5	242.7	71	67.7	69.0	13%	2%
East of STH 441 to West of STH 55	2.2	120	138.9	131.6	28	43.1	39.0	-5%	-9%
West of STH 55 to East of CTH J	3.2	199	182.1	192.6	42	58.0	53.0	6%	-9%
East of CTH J to CTH U (County Line)	3.0	117	138.7	133.8	24	41.8	37.7	-4%	-10%
CTH U (County Line) to South of CTH S	2.1	119	95.7	107.4	21	28.0	27.0	12%	-4%
South of CTH S to North of CTH S	1.7	77	83.9	84.6	11	25.2	22.1	1%	-12%
North of CTH S to South of CTH F	2.3	99	112.4	108.1	25	33.0	31.3	-4%	-5%
Total	*25.5*	*1,850*	*1,548.6*	*1,719.3*	*429*	*476.0*	*467.7*	11%	-2%
Subtotals									
South of CTH BB to North of STH 15	5.2	655.0	398.9	526.5	165.0	121.7	135.0	32%	11%
North of STH 15 to East of STH 441	5.6	464.0	398.0	434.7	113.0	125.2	122.7	9%	-2%
East of STH 441 to CTH U (Brown Co)	8.5	436.0	459.7	458.0	94.0	142.9	129.7	0%	-9%
CTH U to South of CTH F	6.2	295.0	292.0	300.1	57.0	86.2	80.4	3%	-7%

Note: Existing conditions represents five-year totals from 2013 to 2017.

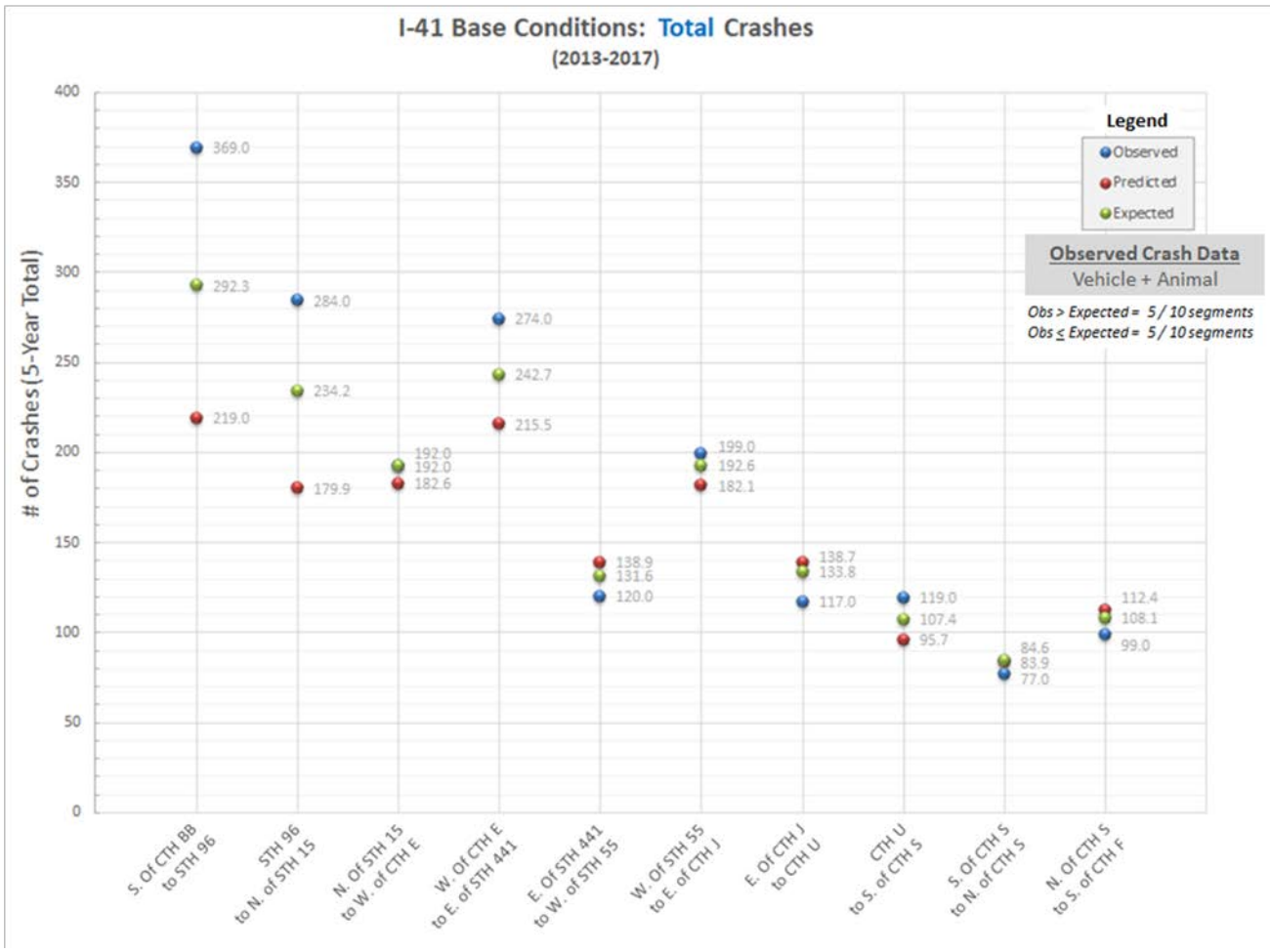


Figure 8.01-2 Existing Conditions Analysis Results: Total Crashes

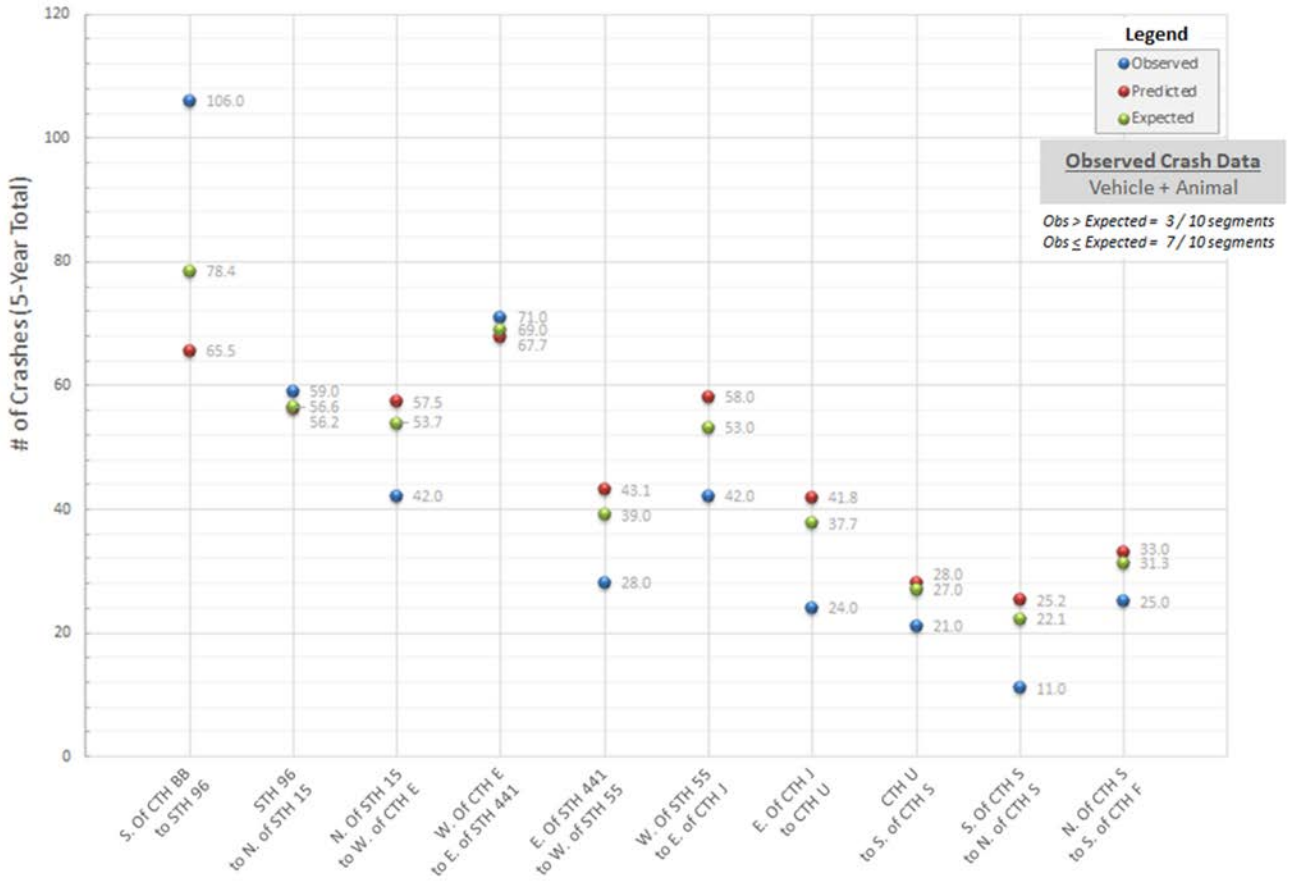


Figure 8.01-3 Existing Conditions Analysis Results: FI Crashes

B. Future No-Build Versus Existing Conditions Analysis

Table 8.01-3 shows a comparison of the annual average Existing Conditions expected crash results (over a five-year timeframe) versus the annual average Future No-Build Conditions expected crash results (over a ten-year timeframe).

	Analysis Segments			Percent Differences Annual Average Expected Crashes		
				No-Build vs. Existing		
	Segment No.	**Dist (mi)**	**General Limits**	**Total**	**FI**	**PDO**
Analysis Segments	1	2.7	South of CTH BB to STH 96	12.6%	15.0%	11.7%
	2	2.5	STH 96 to North of STH 15	18.6%	20.3%	18.1%
	3	2.5	North of STH 15 to West of CTH E	21.9%	22.9%	21.5%
	4	3.1	West of CTH E to East of STH 441	16.6%	18.1%	16.0%
	5	2.2	East of STH 441 to West of STH 55	14.1%	15.6%	13.5%
	6	3.2	West of STH 55 to East of CTH J	14.0%	15.0%	13.6%
	7	3.0	East of CTH J to CTH U (County Line)	13.3%	13.9%	13.0%
	8	2.1	CTH U (County Line) to South of CTH S	14.6%	15.2%	14.4%
	9	1.7	South of CTH S to North of CTH S	14.1%	14.3%	14.0%
	10	2.3	North of CTH S to South of CTH F	14.5%	14.6%	14.5%
Subtotals	1-2	5.2	South of CTH BB to North of STH 15	15.3%	17.2%	14.6%
	3-4	5.6	North of STH 15 to East of STH 441	18.9%	20.2%	18.4%
	5-7	8.5	East of STH 441 to CTH U (Brown County)	13.8%	14.9%	13.4%
	8-10	6.2	CTH U to South of CTH F	14.4%	14.7%	14.3%
	Overall	*25.5*	*South of CTH BB to South of CTH F*	15.7%	16.9%	15.2%

Notes:
Existing represents annual average expected crashes over five years (2013 to 2017).
No-Build represents annual average expected crashes over ten years (2028 to 2037).

Table 8.01-3 Expected Crash Results: Future No-Build Versus Existing Conditions

As anticipated, if no improvements are made to the I-41 mainline, the average annual crashes will increase as traffic volumes grow and congestion worsens. In areas that are heavily congested today, such as north of STH 15 to east of STH 441 (analysis Segments 3 and 4), the number of expected crashes is shown to grow at a higher rate than less-congested parts of the corridor.

Additional detail on comparisons between the Existing Conditions and Future No-Build Conditions IHSDM output is included in Attachment O.

C. Short-Term Build Versus Future No-Build Analysis

The crash prediction results for the proposed I-41 mainline improvements in the Short-Term Build Alternative were compared to the Future No-Build Alternative using the E-B Method. For intersections, the E-B method was used for comparisons where applicable.

Figure 8.01-4 shows a summary of the overall safety analysis for the Short-Term Build Alternative.

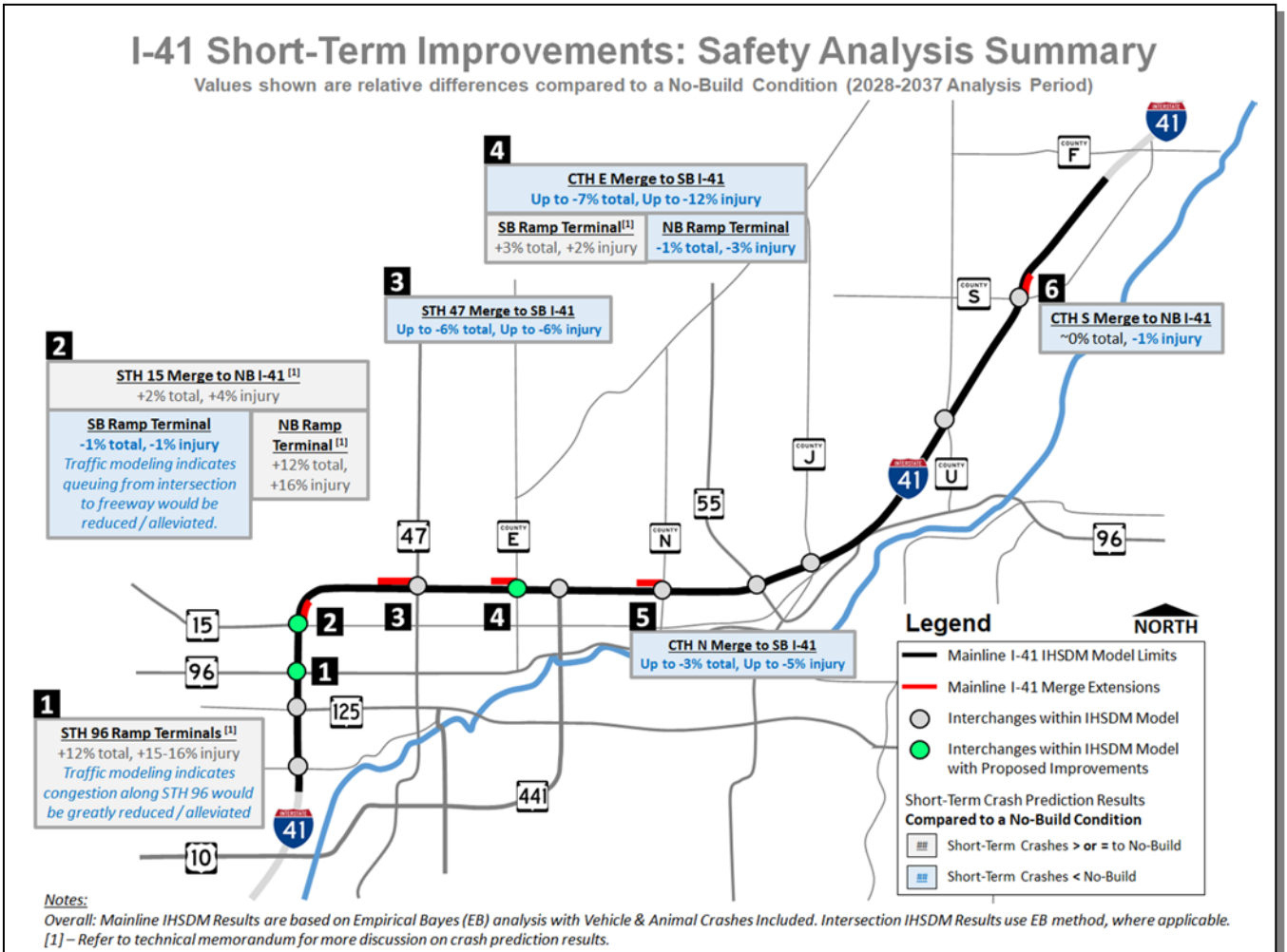


Figure 8.01-4 Short-Term Build Alternative Safety Analysis Summary

Notes and findings regarding the proposed short-term improvements include the following:

1. Mainline Merge Extensions and Additions

   For mainline merges, the first draft of the Short-Term Build Alternative showed that predicted crashes may increase for some of the merge locations. These results are shown in Table 8.01-4 using all crash types (vehicle plus animal) in the E-B Method.

I-41 Acceleration Lane Addition or Extension	Proposed Merge Length (feet)	Coded as Through Lane?	Percent Difference in Expected Crashes vs. No-Build	
			Total Crashes	FI Crashes
STH 15 Northbound	1,050	No	+2.3%	+4.4%
STH 47 Southbound	2,500	Yes[1]	-5.5%	-4.8%
CTH E Southbound	1,560	No	+0.9%	+2.6%
CTH N Southbound	1,560	No	+0.9%	+0.8%
CTH S Northbound	960	No	+0.1%	-0.9%

[1] The high-volume hour percentage in this analysis reflects four basic lanes (is not reduced further because of merge).

Table 8.01-4 Initial Short-Term Build Alternative Results for Mainline Merges

As described in Section 5.01.B, the STH 47 southbound, CTH E southbound, and CTH N southbound merges were extended by a substantial amount and traffic modeling indicated operational improvements would likely occur. The initial IHSDM analysis does not appear to fully capture the anticipated benefit to safety because of improvements with merging operations. The subsequent Short-Term Build Alternative analysis, with reductions in the high-volume hour proportions and the CTH E and CTH N southbound merges coded as through lanes, provided more intuitive crash prediction results. These results are shown in Table 8.01-5.

I-41 Acceleration Lane Addition or Extension	Proposed Merge Length (feet)	Coded as Through Lane?	Percent Difference in Expected Crashes vs. No-Build	
			Total Crashes	FI Crashes
STH 15 Northbound	1,050	No	+2.3%	+4.4%
STH 47 Southbound	2,500	Yes[1]	-6.3%	-6.3%
CTH E Southbound	1,560	Yes[1, 2]	-7.0%	-11.6%
CTH N Southbound	1,560	Yes[1, 2]	-2.8%	-4.7%
CTH S Northbound	960	No	+0.1%	-0.9%

[1] A reduction is congestion is accounted for by reducing high-volume hour percentage.
[2] Merge location is within 25 feet of the threshold to be considered as a through lane per the HSM (0.30 miles, or approximately 1,584 feet)

Table 8.01-5 Final Short-Term Build Alternative Results for Mainline Merges

When comparing the results from Tables 8.01-4 and 8.01-5, it is apparent that the high-volume hour proportion has less of an effect on predicted crashes (only factor that changed at STH 47 southbound) as compared to the gore-to-taper versus through lane coding (modified for CTH E and CTH N southbound merges).

The increase in predicted crashes shown in the initial results could be attributed to how median barrier and outside barrier are handled in the HSM for freeway segments vs. speed change lane segments. Table 8.01-6 shows a breakdown of the percentage of each analysis segment that is considered a merge-related speed-change lane. The location-based numbers shown in black in Table 8.01-6 align with those shown in Figure 8.01-4 summarizing the Short-Term Build Alternative results.

	Merge Location	No-Build	Interim Alt[1]	Interim Alt (Sensitivity)
2	STH 15 NB	42%	50%	---
3	STH 47 SB	29%	0% (coded as thru lane)	0% (coded as thru lane)[2]
4	CTH E SB	22%	50% (1,560' gore-taper)	0% (coded as thru lane)[2, 3]
5	CTH N SB	19%	50% (1,560' gore-taper)	0% (coded as thru lane)[2, 3]
6	CTH S NB	30%	50%	---

[1] Differences in how median barrier and outside barrier are handled in the Highway Safety Manual for freeway segments versus speed change lane segments appear to have led to a general increase in expected crashes when the gore-to-taper length of the merge is increased (but not coded as through lanes).
[2] A reduction is congestion is accounted for by reducing high-volume hour percentage.
[3] Merge location is within 25 feet of the threshold to be considered as a through lane per the Highway Safety Manual Definitions (0.30 miles, or approximately 1,584 feet)

Table 8.01-6 Short-Term Build Alternative Results: Merge Coding Details

Detailed results tables showing the expected crash results for the Short-Term Build Alternative using both crash data sets are shown in Attachment P.

2. STH 96 Ramp Terminal Intersections

The STH 96 improvement includes an additional westbound through lane at both intersections. The additional through lanes change the signalized ramp terminal intersection SPF that would be used in the No-Build condition (five-lane urban) versus the Build condition (six-lane urban). The SPF trends in HSM Table 19-15 indicate that a 12 percent increase in total crashes could be anticipated. The Predictive Results from the IHSDM modeling follow this trend, with a 12 percent increase in total predicted crashes shown at each ramp terminal intersection compared to the No-Build condition.

It is important to note that traffic modeling indicates congestion along STH 96 is anticipated to be reduced with the short-term improvements, which may lead to a reduction in congestion-related crashes (commonly rear-end or sideswipe collisions). The crash prediction analysis of these intersections may be limited by minimal amount of traffic operations input required by the Predictive Method in the HSM.

3. STH 15 Ramp Terminal Intersections

The STH 15 southbound ramp terminal improvements show minimal benefit through the E-B Method (1 percent reduction in total and FI crashes) and slightly more benefit through the Predictive Method (3 to 5 percent reduction in total and FI crashes, respectively).

The STH 15 northbound ramp terminal improvements include an additional westbound through lane that is a look-ahead right-turn lane for the southbound ramp terminal intersection. Similar to STH 96, the additional through lane changes the signalized ramp terminal intersection SPF that would be used in the No-Build condition (four-lane) versus the Build condition (five-lane urban). The SPF trends in HSM Table 19-15 indicate a 11 percent increase in total crashes could be anticipated. The predictive results from the IHSDM modeling follow this trend, with a 12 percent increase in total predicted crashes shown at each ramp terminal intersection compared to the No-Build condition.

Traffic modeling indicates queuing along the southbound offramp from the intersection to the freeway would be substantially alleviated. This is anticipated to provide a safety benefit by reducing speed differentials for traffic along the I-41 mainline. This potential safety benefit is not captured by the IHSDM crash prediction module.

Additionally, some congestion along STH 15 is expected to be alleviated by the proposed improvements, which may lead to a reduction in congestion-related crashes (commonly rear-end or sideswipe collisions). The crash prediction analysis of these intersections may be limited by minimal amount of traffic operations input required by the Predictive Method in the HSM.

4. CTH E Ramp Terminal Intersections

The CTH E southbound ramp terminal improvements show a slight increase in crashes (2 to 3 percent) through the E-B Method. The CTH E northbound ramp terminal improvements show minimal benefit through the E-B Method (1 to 3 percent reductions).

The E-B Method adjusted the predicted crashes heavily at the CTH E southbound ramp terminal intersection, where the total crashes were reduced from 35.5 per year to 15.7 per year in the No-Build and from 30.6 per year to 16.1 per year in the Short-Term Build condition. While the E-B Method is applicable based on the proposed improvements, it has a substantial impact on the crash prediction trends at this interchange.

5. Supplemental Analysis at CTH BB and STH 125

The CTH BB and STH 125 improvements each include an additional through lanes at the northbound and southbound ramp terminal intersections. At CTH BB, the additional through lanes change the signalized ramp terminal intersection SPF that would be used in the No-Build condition (four-lane urban) versus the Build condition (six-lane urban). The SPF trends in HSM Table 19-13, 19-14, and 19-15 indicate that a 22 to 40 percent increase in total crashes could be anticipated based on the additional crossroad lanes. The Predictive Results from the IHSDM

modeling show similar trends and indicate a 23 to 35 percent increase in total predicted crashes could occur compared to the No-Build condition.

At STH 125, the No-Build conditions would use a five-lane urban SPF and the Build condition would include seven lanes along STH 125 at the ramp terminal intersections. The seven-lane section along the crossroad for the Build condition is outside of the bounds of the analysis per HSM Table 19-15 and could not be evaluated in the IHSDM software.

It is important to note that traffic modeling indicates congestion along CTH BB and STH 125 is anticipated to be reduced with the improvements considered, which may lead to a reduction in congestion-related crashes (commonly rear-end or sideswipe collisions). The crash prediction analysis of these intersections may be limited by minimal amount of traffic operations input required by the Predictive Method in the HSM.

Detailed results tables showing the expected and/or predicted intersection crash results for the Short-Term Build Alternative are shown in Attachment P.

D. Long-Term Build vs. Future No-Build Analysis

The Long-Term Build Alternative shows a reduction in predicted FI crashes compared to the No-Build Alternative for most analysis segments. A general increase in predicted PDO crashes is also found, which leads to an increase in overall crashes for most segments. This increase in predicted PDO crashes appears to be because of increases in traffic volumes (compared to Future No-Build conditions) and the introduction of median barrier along the entire length of the corridor. A summary of the results is shown in Table 8.01-7 for the 2028 to 2037 analysis period. Detailed summary tables are included in Attachment Q for the 2028 to 2037 and 2028 to 2047 analysis timeframes.

	Analysis Segments			Percent Differences Long-Term Build vs. No-Build		
	Segment No.	**Dist (mi)**	**General Limits**	**Total**	**FI**	**PDO**
Analysis Segments	1	2.7	South of CTH BB to STH 96	1.3%	1.5%	1.2%
	2	2.5	STH 96 to North of STH 15	-1.3%	-3.6%	-0.3%
	3	2.5	North of STH 15 to West of CTH E	2.4%	-5.8%	6.2%
	4	3.1	West of CTH E to East of STH 441	5.4%	0.4%	7.7%
	5	2.2	East of STH 441 to West of STH 55	4.7%	-4.7%	8.9%
	6	3.2	West of STH 55 to East of CTH J	-0.6%	-6.9%	2.3%
	7	3.0	East of CTH J to CTH U (County Line)	10.0%	0.2%	14.1%
	8	2.1	CTH U (County Line) to South of CTH S	9.5%	-1.6%	14.1%
	9	1.7	South of CTH S to North of CTH S	6.9%	-2.6%	10.9%
	10	2.3	North of CTH S to South of CTH F	9.1%	-2.6%	13.8%
Subtotals	1-2	5.2	South of CTH BB to North of STH 15	0.1%	-0.9%	0.5%
	3-4	5.6	North of STH 15 to East of STH 441	4.0%	-2.5%	7.0%
	5-7	8.5	East of STH 441 to CTH U (Brown County)	4.2%	-4.2%	7.9%
	8-10	6.2	CTH U to South of CTH F	8.6%	-2.2%	13.1%
	Overall	*25.5*	*South of CTH BB to South of CTH F*	3.9%	-2.5%	6.7%

Note: Crash prediction results shown above reflect 2028 to 2037 time period using the Predictive Method

Table 8.01-7 Long-Term Build Alternative Mainline Crash Prediction Results

As discussed in Section 5.01.C, a sensitivity was performed that considered median barrier to be present for 99 percent of the corridor in the existing conditions and Future No-Build Alternative. This test considers the opposing direction of travel's median barrier throughout the corridor but strays from the HSM definitions of when to include median barrier. In terms of the predicted crash results, this test lessens the influence on crashes that the introduction of median barrier on both sides of the I-41 mainline has in the Long-Term Build Alternative.

The sensitivity test results in Table 8.01-8 include a greater reduction in FI and PDO crashes compared to the Future No-Build Alternative for each analysis segment as compared to the initial Long-Term Build Alternative analysis shown in Table 8.01-7.

	Analysis Segments			Percent Differences Long-Term vs. No-Build		
	Seg No.	**Dist (mi)**	**Location vs. Interchanges**	**Total**	**FI**	**PDO**
Analysis Segments	1	2.7	South of CTH BB to STH 96	1.3%	1.5%	1.2%
	2	2.5	STH 96 to North of STH 15	-3.5%	-5.1%	-2.8%
	3	2.5	North of STH 15 to West of CTH E	-1.2%	-8.3%	2.0%
	4	3.1	West of CTH E to East of STH 441	1.8%	-2.1%	3.6%
	5	2.2	East of STH 441 to West of STH 55	0.9%	-7.1%	4.4%
	6	3.2	West of STH 55 to East of CTH J	-4.0%	-9.1%	-1.7%
	7	3.0	East of CTH J to CTH U (County Line)	6.5%	-1.4%	9.8%
	8	2.1	CTH U (County Line) to South of CTH S	6.1%	-3.2%	9.8%
	9	1.7	South of CTH S to North of CTH S	3.4%	-4.3%	6.6%
	10	2.3	North of CTH S to South of CTH F	5.3%	-4.3%	9.2%
Subtotals	1-2	5.2	South of CTH BB to North of STH 15	-1.0%	-1.7%	-0.7%
	3-4	5.6	North of STH 15 to East of STH 441	0.4%	-5.0%	2.9%
	5-7	8.5	East of STH 441 to CTH U (Brown County)	0.6%	-6.3%	3.6%
	8-10	6.2	CTH U to South of CTH F	5.0%	-4.0%	8.7%
	Overall	*25.5*	*South of CTH BB to South of CTH F*	1.0%	-4.4%	3.3%

Note: Crash prediction results shown above reflect 2028 to 2037 time period using the Predictive Method.

Table 8.01-8 Long-Term Build Alternative: Median Barrier Sensitivity Test Results

In the Long-Term Build Alternative, the modeled intersection improvements currently match the Short-Term Build Alternative and were not exclusively modeled as part of the I-41 Traffic and Engineering study's safety analysis. These improvements should be updated during the next phase of the study along with consideration of modeling the intersections adjacent to the ramp terminal intersections.

SECTION 9
SUMMARY

9.01 SUMMARY

The IHSDM analysis for the I-41 corridor was largely performed between March and August 2019. The E-B Method performed used five years of crash data from 2013 to 2017 and two different observed crash data sets. The future No-Build and Build Alternatives were analyzed over a ten-year timeframe from 2028 to 2037 and used the E-B Method where applicable. The crash prediction results focused on relative differences between the future Build alternatives and the No-Build alternatives.

The Short-Term Build Alternative analysis indicates safety improvements could be anticipated at several locations. However, the limitations of the IHSDM related to traffic operations and congestion relief provides counter-intuitive results at some intersections and mainline merges. The proposed improvements should be considered in both a quantitative and qualitative manner when making design decisions. See Section 8.01.C for more discussion on quantitative and qualitative results.

The Long-Term Build Alternative uses the Predictive Method for the I-41 mainline analysis. This methodology indicates that, in general, a reduction in FI crashes could be anticipated with the proposed improvements compared to a No-Build condition. The analysis also indicates that total crashes could to increase because of a rise in predicted PDO crashes. The rise in PDO crashes could be attributed to increased traffic volumes and the introduction of median barrier throughout the corridor. The existing conditions E-B Method indicates that the software may be under-predicting the number of crashes in the higher-volume, congested portions of the corridor from the southern limit to east of STH 441. While unknown, this indicates that the positive benefit of the Long-Term Build Alternative may not be fully captured in the more congested portions of the corridor. See Section 8-D for more discussion on the results.

A number of considerations and potential updates with the IHSDM analysis should be taken into account as the I-41 corridor continues to be studied. These include, but are not limited to, the following:

- Consider updating the version of the software. This study used v14.0. Version 15 is anticipated to be released in fall 2019 and will include enhancements to allow users to identify custom CMFs to use in the analysis.

- Include all crossroads and ramp terminal intersections within the model (8 of the 12 potential crossroads are included in the current model).

- If improvements along service ramps are anticipated to be analyzed for safety performance, consider refining the geometric details (such as shoulder width and lane width) and further evaluation existing crash data for the ramps. Service ramps were not a primary focus of this study.

- In the Long-Term Build Alternative, update proposed geometrics for ramp terminal intersections and consider including intersections adjacent to the ramp terminals.

- As new crash data becomes available and finalized, consider updating the five-year period of the existing conditions crash data (currently covers 2013 to 2017).

ATTACHMENT A
EXISTING CONDITIONS CENTERLINE ALIGNMENT PLAN SHEETS

I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



PROJECT NO:	HWY: IH-41	COUNTY: WINNEBAGO / OUTAGAMIE	PLAN OVERVIEW	SHEET	E

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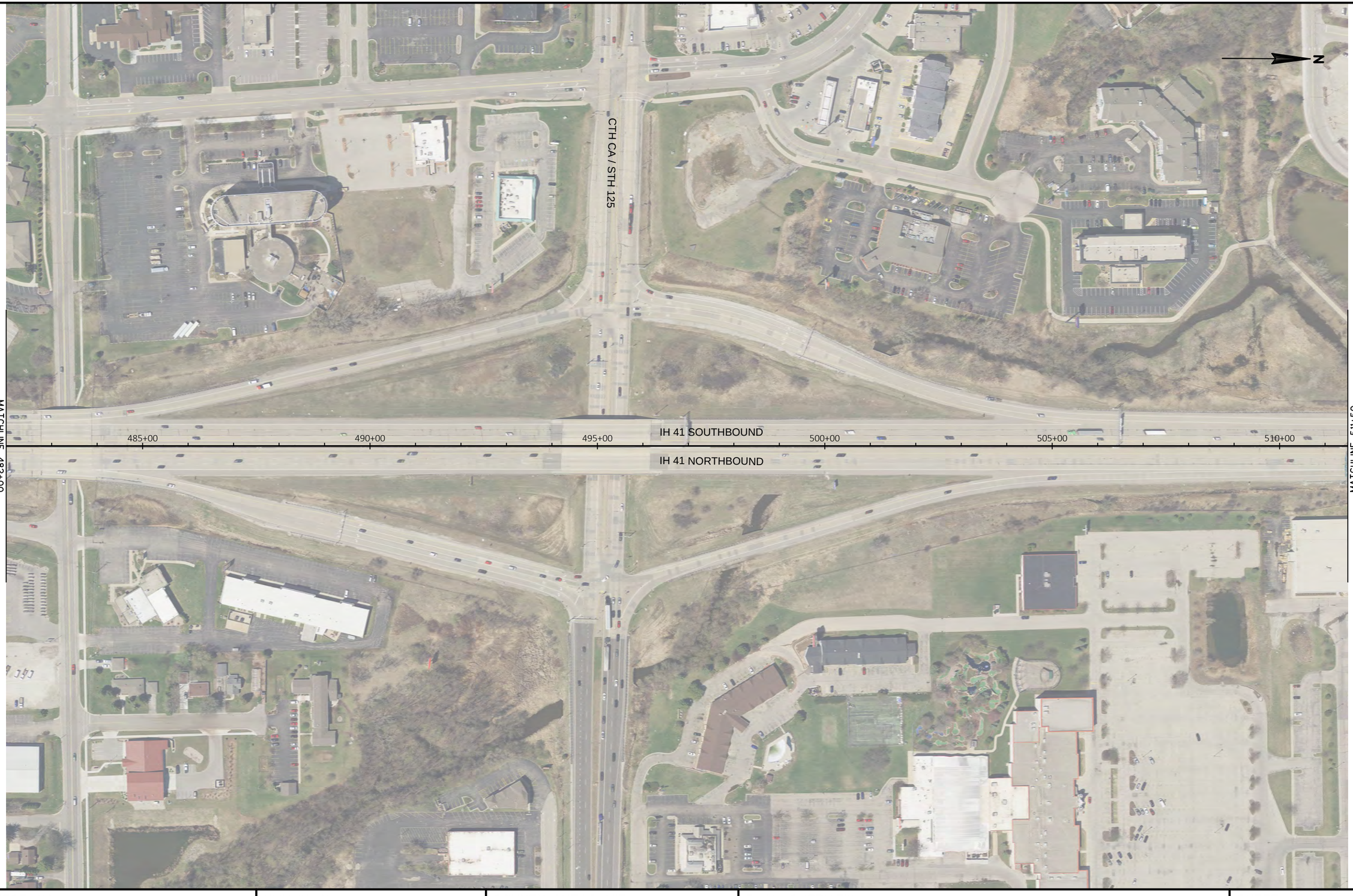
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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



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WISDOT/CADDS SHEET 42

I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis

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WISDOT/CADDS SHEET 42

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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



PROJECT NO:	HWY: IH-41	COUNTY: OUTAGAMIE	PLAN OVERVIEW	SHEET	E

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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis

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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis

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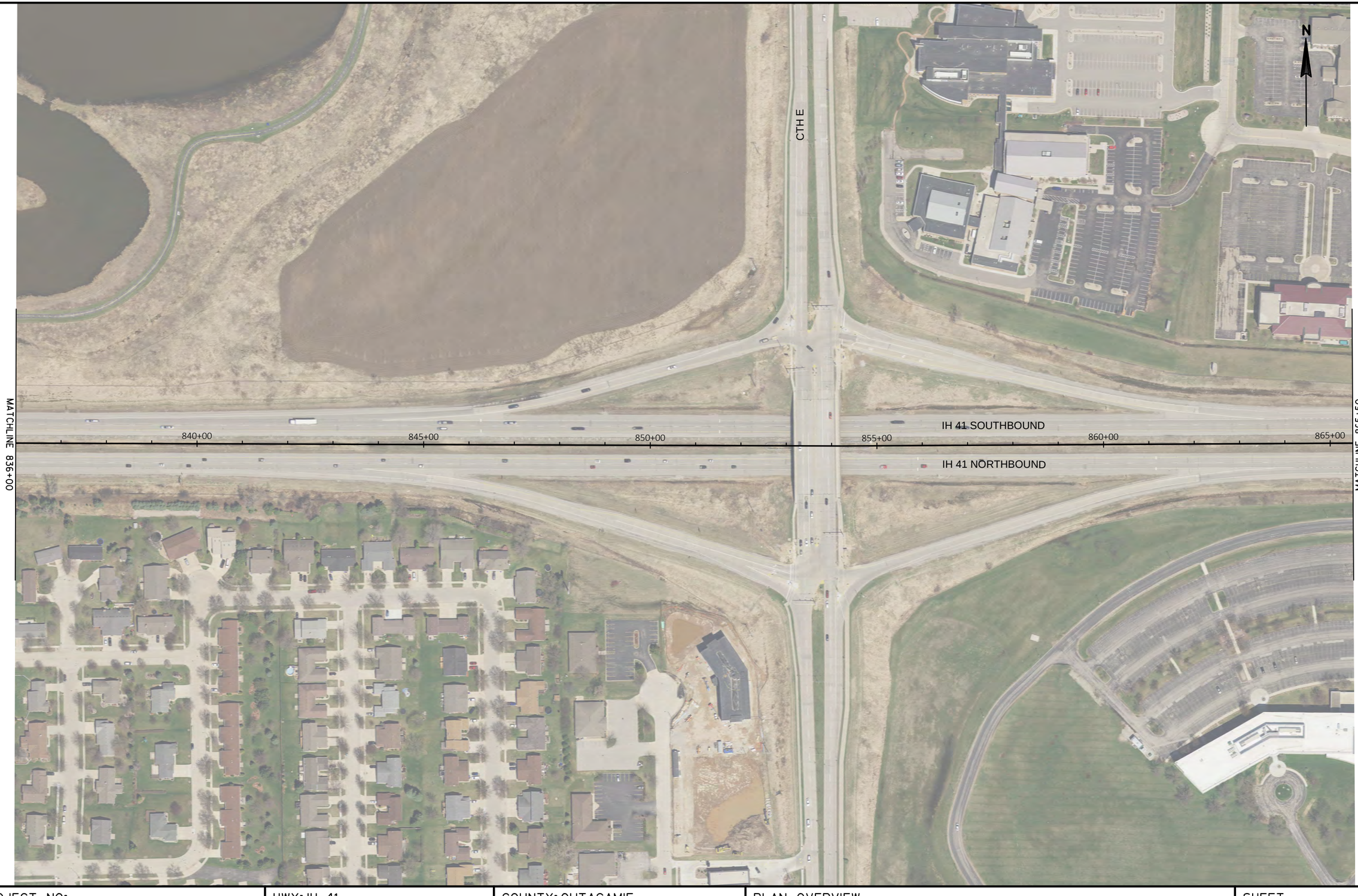


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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



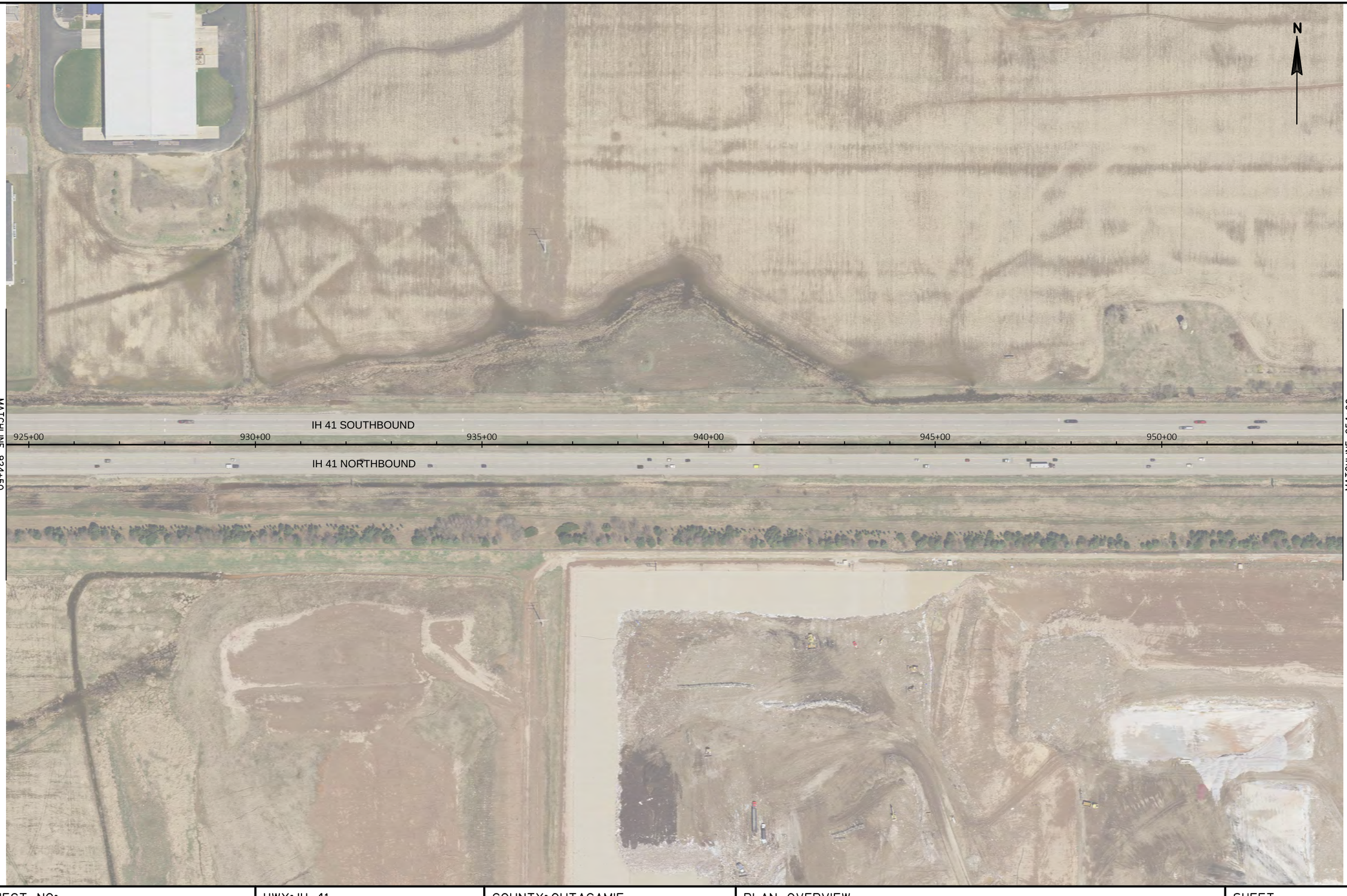
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WISDOT/CADDS SHEET 42

I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis

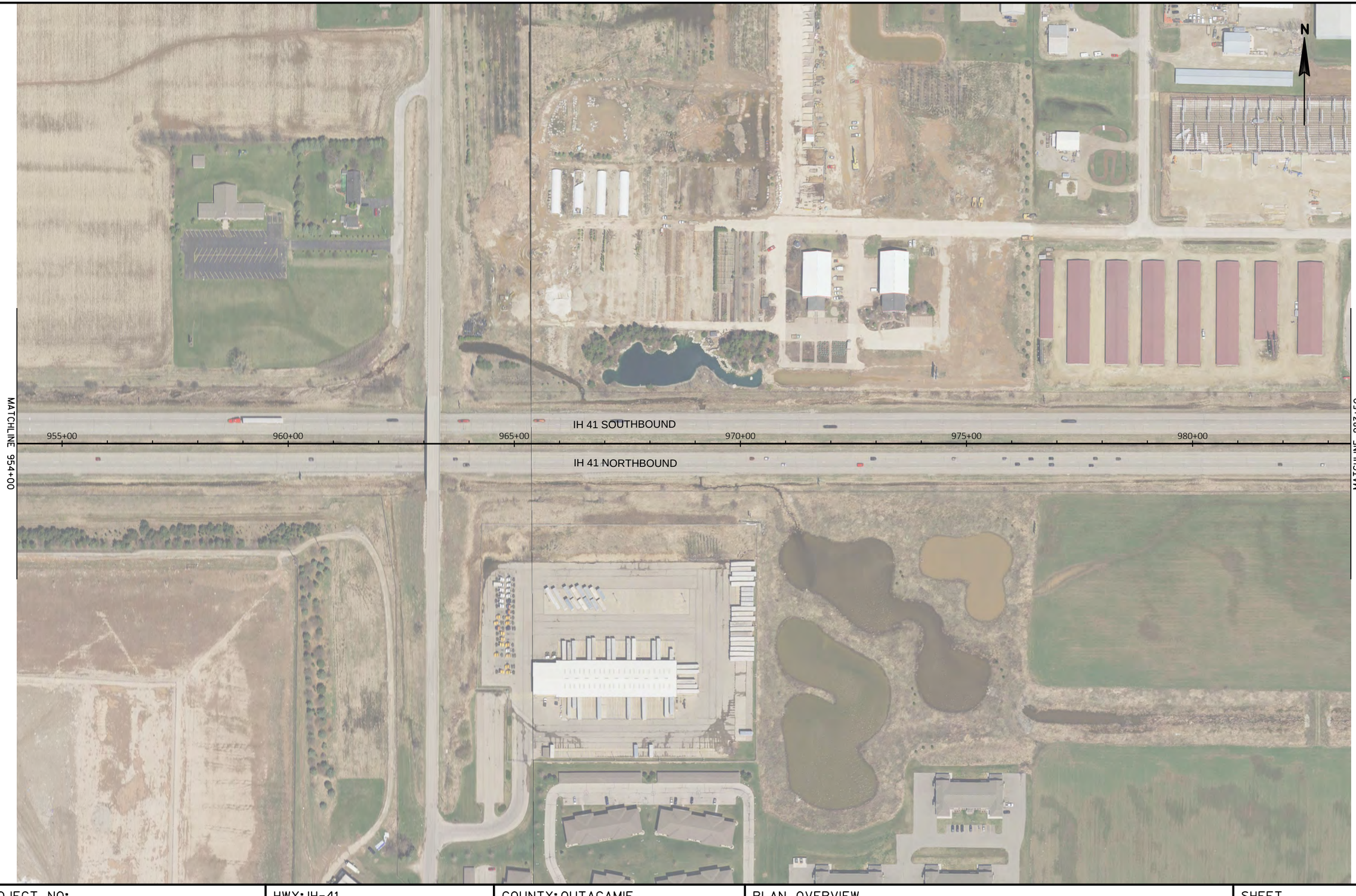


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WISDOT/CADDS SHEET 42

I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis

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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



PROJECT NO:	HWY: IH-41	COUNTY: OUTAGAMIE	PLAN OVERVIEW	SHEET	E

I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



PROJECT NO:	HWY: IH-41	COUNTY: OUTAGAMIE	PLAN OVERVIEW	SHEET	E

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WISDOT/CADDS SHEET 42

I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis

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PROJECT NO:	HWY: IH-41	COUNTY: OUTAGAMIE	PLAN OVERVIEW	SHEET	E

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PROJECT NO:	HWY: IH-41	COUNTY: OUTAGAMIE	PLAN OVERVIEW	SHEET	E

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PROJECT NO:	HWY: IH-41	COUNTY: OUTAGAMIE	PLAN OVERVIEW	SHEET	E

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PROJECT NO:	HWY: IH-41	COUNTY: OUTAGAMIE	PLAN OVERVIEW	SHEET	E

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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis

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WISDOT/CADDS SHEET 42

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PROJECT NO:	HWY: IH-41	COUNTY: OUTAGAMIE	PLAN OVERVIEW	SHEET	E

I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



PROJECT NO:	HWY: IH-41	COUNTY: OUTAGAMIE	PLAN OVERVIEW	SHEET	E

I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis

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PROJECT NO:	HWY: IH-41	COUNTY: OUTAGAMIE	PLAN OVERVIEW	SHEET	E

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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



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WISDOT/CADDS SHEET 42

I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



PROJECT NO:	HWY: IH-41	COUNTY: OUTAGAMIE / BROWN	PLAN OVERVIEW	SHEET	E

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WISDOT/CADDS SHEET 42

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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



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WISDOT/CADDS SHEET 42

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PROJECT NO:	HWY: IH-41	COUNTY: BROWN	PLAN OVERVIEW	SHEET	E

I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



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WISDOT/CADDS SHEET 42

I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis

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WISDOT/CADDS SHEET 42

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PROJECT NO:	HWY: IH-41	COUNTY: BROWN	PLAN OVERVIEW	SHEET	E

I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis

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PROJECT NO:	HWY: IH-41	COUNTY: BROWN	PLAN OVERVIEW	SHEET	E

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WISDOT/CADDS SHEET 42

I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis

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PROJECT NO:	HWY: IH-41	COUNTY: BROWN	PLAN OVERVIEW	SHEET	E

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I-41 Traffic and Engineering Study: Existing Conditions Centerline Alignment for IHSDM Analysis



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WISDOT/CADDS SHEET 42

ATTACHMENT B1
EXISTING CONDITIONS GEOMETRIC INPUTS: INTERCHANGES AND RAMPS

I-41 IHSDM Analysis: Existing Conditions Interchange and Ramp Connection Summary

March 19, 2019 (Draft)

Interchange	Interchange Station	Ramp Type	Approximate Length (ft)	# Lanes	Gore Station	Gore to Taper Length (ft)	Side of Road	Part of weave?	Notes
CTH BB	429+50	NB Exit	1,060	1	419+00	1,000	Right	No	
		NB Entrance	1,575	1	445+35	720	Right	No	
		SB Exit	1,150	1	441+50	640	Left	No	
		SB Entrance	1,070	1	419+10	1,210	Left	No	
STH 125	495+20	NB Exit	1,100	1	483+95	660	Right	No	
		NB Entrance	1,540	1	510+55		Right	Yes	
		SB Exit	1,020	2	505+55	390	Left	Yes	Gore-to-taper length is for left offramp lane
		SB Entrance	1,740	1	477+75	540	Left	No	
STH 96	536+25	NB Exit	1,260	2	523+00	310	Right	Yes	Gore-to-taper length is for left offramp lane
		NB Entrance	1,400	1	550+75	330	Right	No	
		SB Exit	970	1	546+35	620	Left	No	
		SB Entrance	1,400	1	521+85		Left	Yes	
STH 15	590+75	NB Exit	1,420	1	576+30		Right	No	Drop Lane
		NB Entrance	1,250	1	603+65	890	Right	No	
		SB Exit	1,800	1	605+10	530	Left	No	
		SB Entrance	1,490	1	591+30		Left	No	Add Lane
STH 47	747+80	NB Exit	1,200	1	735+45	1,690	Right	No	Gore-to-taper length is zero for IHSDM model*
		NB Entrance	1,140	1	759+40	1,270	Right	No	
		SB Exit	1,400	1	762+30	1,670	Left	No	Gore-to-taper length is zero for IHSDM model*
		SB Entrance	1,180	1	735+85	1,470	Left	No	
CTH E	853+60	NB Exit	970	1	1112+20	460	Right	No	
		NB Entrance	980	1	863+60		Right	Yes	
		SB Exit	960	1	863+45		Left	Yes	
		SB Entrance	910	1	844+30	680	Left	No	
STH 441	903+25	NB Exit	2,150	1	890+25		Right	Yes	Length measured as I-41 gore to STH 441 gore
		NB Entrance	2,120	1	917+20	560	Right	No	Length measured as STH 441 gore to I-41 gore
		SB Exit	1,700	1	904+25	345	Left	No	Gore on I-41 to beginning 2-lane taper on 441
		SB Entrance	1,370	1	884+15		Left	Yes	Two lane ending on STH 441 to I-41 to gore
CTH N	1016+00	NB Exit	910	1	1006+65	410	Right	No	
		NB Entrance	1,120	1	1027+30	400	Right	No	
		SB Exit	1,110	1	1027+45	320	Left	No	
		SB Entrance	1,000	1	1006+00	580	Left	No	
STH 55	1123+60	NB Exit	1,190	1	1112+20	710	Right	No	
		NB Entrance	1,120	1	1135+75	490	Right	No	
		SB Exit	920	1	1131+50	310	Left	No	
		SB Entrance	820	1	1114+35	590	Left	No	
CTH J	1187+40	NB Exit	1,000	1	1175+85	260	Right	No	
		NB Entrance	970	1	1196+10	380	Right	No	
		SB Exit	860	1	1197+20	470	Left	No	
		SB Entrance	1,190	1	1176+35	380	Left	No	
Weigh Station	1374+20	NB Exit	1,600	1	1357+80	200	Right	No	
		NB Entrance	705	1	1382+15		Right	Yes	
CTH U	1410+90	NB Exit	1,020	1	1397+75	200	Right	Yes	
		NB Entrance	1,630	1	1424+25	600	Right	No	
		SB Exit	1,170	1	1425+00	180	Left	No	
		SB Entrance	1,760	1	1395+60	750	Left	No	
CTH S	1567+20	NB Exit	1,420	1	1554+10	180	Right	No	
		NB Entrance	1,620	1	1584+60	580	Right	No	
		SB Exit	1,480	1	1580+90	200	Left	No	
		SB Entrance	1,370	1	1552+20	770	Left	No	

**Gore-to-taper lengths over 0.30 miles (1,584') must be coded as thru lanes per the HSM definitions. See technical memo for more discussion.*

ATTACHMENT B2
EXISTING CONDITIONS GEOMETRIC INPUTS: MAINLINE

I-41 IHSDM Analysis: General Purpose Lane Summary

April 15, 2019 (Draft)

EXISTING CONDITIONS

Increasing Stations: I-41 NB (Right)

Stationing			General Purpose Lane Widths (feet)						Aux Lane					Parallel Merge/Diverge				
			Lane 1 (Median)		Lane 2 (Center)		Lane 3 (Right)		Aux lane width (ft)		Type of Weave (A, B, or C)	Aux Lane Length (ft)	Count Aux lane as thru?					
Start	*End*	*Location*	*Start*	*End*	*Start*	*End*	*Start*	*End*	*Start*	*End*				Location	Gore to Taper Length (ft)	Lane Width End	Count as thru?	Ramp Measurement Notes
		USH 10 to CTH BB	12.0	12.0	12.0	12.0	12.0	12.0	---	---	---	---	---					
		CTH BB Exit												409+10 to 419+00	1,000	15	Taper	
		CTH BB	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH BB Entrance												445+35 to 452+55	720	15	Taper	
		STH 125/CTH CA Exit												477+35 to 483+95	660	15	Taper	
		CTH BB to STH 125/CTH CA	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 125/CTH CA	12.0	12.0	12.0	12.0	12.0	12.0										
510+55	523+00	STH 125/CTH CA to STH 96	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	B	1,245	No					
		STH 96 Exit												519+85 to 523+00	310	15	Taper	
		STH 96	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 96 Entrance												550+75 to 554+05	330	15	Taper	
		STH 96 to STH 15	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 15 Exit												576+30		15		Drop Lane
		STH 15	12.0	12.0	12.0	12.0												
		STH 15 Entrance												603+65 to 612+65	890	15		
		STH 15 to STH 47	12.0	12.0	12.0	12.0												
		STH 47 Exit												718+60 to 735+45*	1,685	12	**Yes**	Dist > 0.30 mi. Taper = 360'
		STH 47	12.0	12.0	12.0	12.0								**Taper = 718+60 to 722+20*				
		STH 47 Entrance												759+35 to 772+10	1,270	15		
		STH 47 to CTH E	12.0	12.0	12.0	12.0												
		CTH E Exit												839+25 to 843+80	460	15		
		CTH E	12.0	12.0	12.0	12.0												
863+60	890+25	CTH E to STH 441	12.0	12.0	12.0	12.0			12.0	12.0	A	2,665	No					
		STH 441	12.0	12.0	12.0	12.0												
		STH 441 Entrance												917+20 to 922+85	560	15		
		STH 441 to CTH N	12.0	12.0	12.0	12.0												
		CTH N Exit												1002+55 to 1006+65	410	15		
		CTH N	12.0	12.0	12.0	12.0												
		CTH N Entrance												1027+30 to 1031+35	400	15		
		CTH N to STH 55	12.0	12.0	12.0	12.0												
		STH 55 Exit												1105+15 to 1112+20	710	15		
		STH 55	12.0	12.0	12.0	12.0												
		STH 55 Entrance												1135+75 to 1140+65	490	15		
		STH 55 to CTH J	12.0	12.0	12.0	12.0												
		CTH J Exit												1173+25 to 1175+85	260	15		
		CTH J	12.0	12.0	12.0	12.0												
		CTH J Entrance												1196+07 to 1199+90	380	15		
		CTH J to CTH U	12.0	12.0	12.0	12.0												
		Weigh Station Exit												1355+75 to 1357+80	200	15	Taper	
1382+15	1404+15	Weigh Station Entrance							12.0	12.0	B	2,200	No					
		CTH U Exit												1395+75 to 1397+75	200	15	Taper	
		CTH U	12.0	12.0	12.0	12.0								1404+15 to 1408+10	395	12	Taper	
		CTH U Entrance												1424+25 to 1430+30	600	15	Taper	
		CTH U to CTH S	12.0	12.0	12.0	12.0												
		CTH S Exit												1552+30 to 1554+10	180	15	Taper	
		CTH S	12.0	12.0	12.0	12.0												
		CTH S Entrance												1584+60 to 1590+50	580	15	Taper	
		CTH S to CTH F	12.0	12.0	12.0	12.0												

Decreasing Stations: I-41 SB (Left)

Stationing			General Purpose Lane Widths (feet)						Aux Lane					Parallel Merge/Diverge				
			Lane 1 (Median)		Lane 2 (Center)		Lane 3 (Right)		Aux lane width (ft)		Type of Weave	Aux Lane	Count Aux	Location	Gore to Taper	Lane Width	Count as thru?	Ramp Measurement Notes
Start	*End*	*Location*	*Start*	*End*	*Start*	*End*	*Start*	*End*	*Start*	*End*	(A, B, or C)	Length (ft)	lane as thru?		Length (ft)	End		
		USH 10 to CTH BB	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH BB Entrance												406+85 to 419+10	1,210	15	Taper	
		CTH BB	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH BB Exit												441+50 to 447+85	640	15		
		CTH BB to STH 125/CTH CA	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 125 Entrance												472+35 to 477+75	540	15		
		STH 125/CTH CA	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 125 Exit												505+55 to 509+50	390	12		
505+55	521+85	STH 125/CTH CA to STH 96	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	B	1,630	No					
		STH 96 Exit												546+35 to 552+50	620	15		
		STH 96	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 96 to STH 15	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 15	12.0	12.0	12.0	12.0												
		STH 15 Exit												605+10 to 610+30	530	15		
		STH 15 to STH 47	12.0	12.0	12.0	12.0												
		STH 47 Entrance												721+20 to 735+85	1,470	15		
		STH 47	12.0	12.0	12.0	12.0												
		STH 47 Exit												762+30 to 779+00*	1,670	12	Yes	Dist > 0.30 mi. Taper = 360'
		STH 47 to CTH E	12.0	12.0	12.0	12.0								*Taper = 779+00 to 775+40				
		CTH E Entrance												837+50 to 844+30	680	15		
		CTH E	12.0	12.0	12.0	12.0												
863+45	884+15	CTH E to STH 441	12.0	12.0	12.0	12.0			12.0	12.0	A	2,070	No					
		STH 441	12.0	12.0	12.0	12.0												
		STH 441 Exit												904+25 to 910+25	600	15		
		STH 441 to CTH N	12.0	12.0	12.0	12.0												
		CTH N Entrance												1000+20 to 1006+00	580	15		
		CTH N	12.0	12.0	12.0	12.0												
		CTH N Exit												1027+45 to 1030+60	320	15		
		CTH N to STH 55	12.0	12.0	12.0	12.0												
		STH 55 Entrance												1108+40 to 1114+35	590	15		
		STH 55	12.0	12.0	12.0	12.0												
		STH 55 Exit												1131+55 to 1134+65	310	15		
		STH 55 to CTH J	12.0	12.0	12.0	12.0												
		CTH J Entrance												1172+55 to 1176+35	380	15		
		CTH J	12.0	12.0	12.0	12.0												
		CTH J Exit												1197+20 to 1201+95	470	15		
		CTH J to CTH U	12.0	12.0	12.0	12.0												
		CTH U Entrance												1338+15 to 1395+65	750	15		
		CTH U	12.0	12.0	12.0	12.0												
		CTH U Exit												1425+00 to 1426+80	180	15		
		CTH U to CTH S	12.0	12.0	12.0	12.0												
		CTH S Entrance												1544+40 to 1552+20	770	15		
		CTH S	12.0	12.0	12.0	12.0												
		CTH S Exit												1580+90 to 1582+90	200	15		
		CTH S to CTH F	12.0	12.0	12.0	12.0												

Decreasing Stations: I-41 SB (Left)

Stationing			Shoulder Characteristics								Coding Priority
							Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Approximate Location*	*Start*	*End*	*Material*	*Rumble Strips?*	
39200.00	40276.00	Left	Inside	0.00	0.00	South Project Limit to CTH BB	10.0	10.0	Paved	Yes	8.0
40276.00	42532.00	Left	Inside	0.00	0.00	South Project Limit to CTH BB	10.0	10.0	Paved	Yes	8.0
42532.00	42673.00	Left	Inside	0.00	0.00	South Project Limit to CTH BB	10.0	10.0	Paved	Yes	8.0
42673.00	42706.00	Left	Inside	0.00	0.00	South Project Limit to CTH BB	10.0	10.0	Paved	No	8.0
42706.00	42815.00	Left	Inside	0.00	0.00	South Project Limit to CTH BB	10.0	10.0	Paved	Yes	8.0
42815.00	43063.00	Left	Inside	0.00	0.00	CTH BB	10.0	10.0	Paved	No	8.0
43063.00	43548.00	Left	Inside	0.00	0.00	CTH BB	10.0	10.0	Paved	Yes	8.0
43548.00	47842.00	Left	Inside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	Yes	8.0
47842.00	48264.00	Left	Inside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	Yes	8.0
48264.00	48418.00	Left	Inside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	No	8.0
48418.00	48445.00	Left	Inside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	Yes	8.0
48445.00	48479.00	Left	Inside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	No	8.0
48479.00	49390.00	Left	Inside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	Yes	8.0
49390.00	49617.00	Left	Inside	0.00	0.00	STH 125	10.0	10.0	Paved	No	8.0
49617.00	50130.00	Left	Inside	0.00	0.00	STH 125	10.0	10.0	Paved	Yes	8.0
50130.00	53154.00	Left	Inside	0.00	0.00	STH 125 to STH 96	10.0	10.0	Paved	Yes	8.0
53154.00	53504.00	Left	Inside	0.00	0.00	STH 96	10.0	10.0	Paved	Yes	8.0
53504.00	53755.00	Left	Inside	0.00	0.00	STH 96	10.0	10.0	Paved	No	8.0
53755.00	53793.00	Left	Inside	0.00	0.00	STH 96	10.0	10.0	Paved	Yes	8.0
53793.00	53820.00	Left	Inside	0.00	0.00	STH 96	10.0	10.0	Paved	No	8.0
53820.00	54679.00	Left	Inside	0.00	0.00	STH 96	10.0	10.0	Paved	Yes	8.0
54679.00	54709.00	Left	Inside	0.00	0.00	STH 96 to STH 15	10.0	10.0	Paved	No	8.0
54709.00	55409.00	Left	Inside	0.00	0.00	STH 96 to STH 15	10.0	10.0	Paved	Yes	8.0
55409.00	55707.00	Left	Inside	0.00	0.00	STH 96 to STH 15	10.0	10.0	Paved	No	8.0
55707.00	56259.00	Left	Inside	0.00	0.00	STH 96 to STH 15	10.0	10.0	Paved	Yes	8.0
56259.00	57048.00	Left	Inside	0.00	0.00	STH 96 to STH 15	10.0	10.0	Paved	Yes	8.0
57048.00	57155.00	Left	Inside	0.00	0.00	STH 96 to STH 15	10.0	4.0	Paved	Yes	8.0
57155.00	69309.00	Left	Inside	0.00	0.00	STH 96 to STH 47	4.0	4.0	Paved	Yes	8.0
69309.00	69462.00	Left	Inside	0.00	0.00	STH 15 to STH 47	4.0	4.0	Paved	No	8.0
69462.00	70717.00	Left	Inside	0.00	0.00	STH 15 to STH 47	4.0	4.0	Paved	Yes	8.0
70717.00	70833.00	Left	Inside	0.00	0.00	STH 15 to STH 47	4.0	4.0	Paved	No	8.0
70833.00	112174.00	Left	Inside	0.00	0.00	STH 15 to STH 55	4.0	4.0	Paved	Yes	8.0
112174.00	112290.00	Left	Inside	0.00	0.00	STH 15 to STH 55	4.0	6.0	Paved	Yes	8.0
112290.00	112410.00	Left	Inside	0.00	0.00	STH 55 Bridge	6.0	6.0	Paved	No	8.0
112410.00	112698.00	Left	Inside	0.00	0.00	STH 55 to CTH J	6.0	6.0	Paved	Yes	8.0
112698.00	112748.00	Left	Inside	0.00	0.00	STH 55 to CTH J	6.0	8.0	Paved	Yes	8.0
112748.00	112788.00	Left	Inside	0.00	0.00	STH 55 to CTH J	8.0	6.0	Paved	Yes	8.0
112788.00	113503.00	Left	Inside	0.00	0.00	STH 55 to CTH J	6.0	6.0	Paved	Yes	8.0
113503.00	113614.00	Left	Inside	0.00	0.00	STH 55 to CTH J	6.0	6.0	Paved	No	8.0

Decreasing Stations: I-41 SB (Left)

Stationing			Shoulder Characteristics								Coding Priority
Start	End	Side of Road	Shoulder Side	Start Slope	End Slope	Approximate Location	Shoulder Width (ft)		Material	Rumble Strips?	
							Start	End			
113614.00	113906.00	Left	Inside	0.00	0.00	STH 55 to CTH J	6.0	6.0	Paved	Yes	8.0
113906.00	113956.00	Left	Inside	0.00	0.00	STH 55 to CTH J	6.0	8.0	Paved	Yes	8.0
113956.00	113996.00	Left	Inside	0.00	0.00	STH 55 to CTH J	8.0	4.0	Paved	Yes	8.0
113996.00	124800.00	Left	Inside	0.00	0.00	CTH J	4.0	4.0	Paved	Yes	8.0
124800.00	125475.00	Left	Inside	0.00	0.00	CTH J to CTH U	4.0	4.0	Paved	No	8.0
125475.00	132130.00	Left	Inside	0.00	0.00	CTH J to CTH U	4.0	4.0	Paved	Yes	8.0
132130.00	132285.00	Left	Inside	0.00	0.00	CTH J to CTH U	4.0	4.0	Paved	No	8.0
132285.00	141027.00	Left	Inside	0.00	0.00	CTH J to CTH U	4.0	4.0	Paved	Yes	8.0
141027.00	141229.00	Left	Inside	0.00	0.00	CTH U	4.0	4.0	Paved	No	8.0
141229.00	143550.00	Left	Inside	0.00	0.00	CTH U to CTH S	4.0	4.0	Paved	Yes	8.0
143550.00	143705.00	Left	Inside	0.00	0.00	CTH U to CTH S	4.0	4.0	Paved	No	8.0
143705.00	161211.00	Left	Inside	0.00	0.00	CTH U to North Project Limit	4.0	4.0	Paved	Yes	8.0
161211.00	161339.00	Left	Inside	0.00	0.00	CTH S to North Project Limit	4.0	4.0	Paved	No	8.0
161339.00	173657.00	Left	Inside	0.00	0.00	CTH S to North Project Limit	4.0	4.0	Paved	Yes	8.0

Increasing Stations: I-41 NB (Right)

Stationing			Shoulder Characteristics								Coding Priority
Start	End	Side of Road	Shoulder Side	Start Slope	End Slope	Approximate Location	Shoulder Width (ft)		Material	Rumble Strips?	
							Start	End			
39200.00	42270.00	Right	Inside	0.00	0.00	South Project Limit to CTH BB	10.0	10.0	Paved	Yes	8.0
42270.00	42813.00	Right	Inside	0.00	0.00	South Project Limit to CTH BB	10.0	10.0	Paved	Yes	8.0
42813.00	43085.00	Right	Inside	0.00	0.00	CTH BB	10.0	10.0	Paved	No	8.0
43085.00	43345.00	Right	Inside	0.00	0.00	CTH BB	10.0	10.0	Paved	Yes	8.0
43345.00	47842.00	Right	Inside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	Yes	8.0
47842.00	48252.00	Right	Inside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	Yes	8.0
48252.00	48418.00	Right	Inside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	No	8.0
48418.00	48445.00	Right	Inside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	Yes	8.0
48445.00	48479.00	Right	Inside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	No	8.0
48479.00	49372.00	Right	Inside	0.00	0.00	STH 125	10.0	10.0	Paved	Yes	8.0
49372.00	49641.00	Right	Inside	0.00	0.00	STH 125	10.0	10.0	Paved	No	8.0
49641.00	49984.00	Right	Inside	0.00	0.00	STH 125	10.0	10.0	Paved	Yes	8.0
49984.00	53043.00	Right	Inside	0.00	0.00	STH 125 to STH 96	10.0	10.0	Paved	Yes	8.0
53043.00	53504.00	Right	Inside	0.00	0.00	STH 96	10.0	10.0	Paved	Yes	8.0
53504.00	53820.00	Right	Inside	0.00	0.00	STH 96	10.0	10.0	Paved	No	8.0
53820.00	54682.00	Right	Inside	0.00	0.00	STH 96	10.0	10.0	Paved	Yes	8.0
54682.00	54709.00	Right	Inside	0.00	0.00	STH 96	10.0	10.0	Paved	No	8.0
54709.00	55413.00	Right	Inside	0.00	0.00	STH 96 to STH 15	10.0	10.0	Paved	Yes	8.0
55413.00	55683.00	Right	Inside	0.00	0.00	STH 96 to STH 15	10.0	10.0	Paved	No	8.0
55683.00	56109.00	Right	Inside	0.00	0.00	STH 96 to STH 15	10.0	10.0	Paved	Yes	8.0
56109.00	57048.00	Right	Inside	0.00	0.00	STH 96 to STH 15	10.0	10.0	Paved	Yes	8.0
57048.00	57155.00	Right	Inside	0.00	0.00	STH 96 to STH 15	10.0	4.0	Paved	Yes	8.0
57155.00	57172.00	Right	Inside	0.00	0.00	STH 96 to STH 15	4.0	4.0	Paved	Yes	8.0
57172.00	69329.00	Right	Inside	0.00	0.00	STH 96 to STH 47	4.0	4.0	Paved	Yes	8.0
69329.00	69463.00	Right	Inside	0.00	0.00	STH 15 to STH 47	4.0	4.0	Paved	No	8.0
69463.00	70717.00	Right	Inside	0.00	0.00	STH 15 to STH 47	4.0	4.0	Paved	Yes	8.0
70717.00	70824.00	Right	Inside	0.00	0.00	STH 15 to STH 47	4.0	4.0	Paved	No	8.0
70824.00	111923.00	Right	Inside	0.00	0.00	STH 15 to STH 55	4.0	4.0	Paved	Yes	8.0
111923.00	111963.00	Right	Inside	0.00	0.00	STH 15 to STH 55	4.0	8.0	Paved	Yes	8.0
111963.00	112013.00	Right	Inside	0.00	0.00	STH 15 to STH 55	8.0	6.0	Paved	Yes	8.0
112013.00	112307.00	Right	Inside	0.00	0.00	STH 15 to STH 55	6.0	6.0	Paved	Yes	8.0
112307.00	112426.00	Right	Inside	0.00	0.00	STH 55 Bridge	6.0	6.0	Paved	No	8.0
112426.00	112452.00	Right	Inside	0.00	0.00	STH 55 to CTH J	6.0	4.0	Paved	Yes	8.0
112452.00	113079.00	Right	Inside	0.00	0.00	STH 55 to CTH J	4.0	4.0	Paved	Yes	8.0
113079.00	113119.00	Right	Inside	0.00	0.00	STH 55 to CTH J	4.0	8.0	Paved	Yes	8.0
113119.00	113169.00	Right	Inside	0.00	0.00	STH 55 to CTH J	8.0	6.0	Paved	Yes	8.0
113169.00	113486.00	Right	Inside	0.00	0.00	STH 55 to CTH J	6.0	6.0	Paved	Yes	8.0
113486.00	113598.00	Right	Inside	0.00	0.00	STH 55 to CTH J	6.0	6.0	Paved	No	8.0
113598.00	113618.00	Right	Inside	0.00	0.00	STH 55 to CTH J	6.0	4.0	Paved	Yes	8.0

I-41 IHSDM Analysis: Inside Shoulder Width Summary **EXISTING CONDITIONS**

March 19, 2019 (Draft)

Increasing Stations: I-41 NB (Right)

Stationing			Shoulder Characteristics								Coding Priority
							Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Approximate Location*	*Start*	*End*	*Material*	*Rumble Strips?*	
113618.00	124822.00	Right	Inside	0.00	0.00	CTH J	4.0	4.0	Paved	Yes	8.0
124822.00	125358.00	Right	Inside	0.00	0.00	CTH J to CTH U	4.0	4.0	Paved	No	8.0
125358.00	132150.00	Right	Inside	0.00	0.00	CTH J to CTH U	4.0	4.0	Paved	Yes	8.0
132150.00	132322.00	Right	Inside	0.00	0.00	CTH J to CTH U	4.0	4.0	Paved	No	8.0
132322.00	140951.00	Right	Inside	0.00	0.00	CTH J to CTH U	4.0	4.0	Paved	Yes	8.0
140951.00	141190.00	Right	Inside	0.00	0.00	CTH U	4.0	4.0	Paved	No	8.0
141190.00	143564.00	Right	Inside	0.00	0.00	CTH U	4.0	4.0	Paved	Yes	8.0
143564.00	143702.00	Right	Inside	0.00	0.00	CTH U to CTH S	4.0	4.0	Paved	No	8.0
143702.00	161188.00	Right	Inside	0.00	0.00	CTH U to North Project Limit	4.0	4.0	Paved	Yes	8.0
161188.00	161377.00	Right	Inside	0.00	0.00	CTH S to North Project Limit	4.0	4.0	Paved	No	8.0
161377.00	173657.00	Right	Inside	0.00	0.00	CTH S to North Project Limit	4.0	4.0	Paved	Yes	8.0

I-41 IHSDM Analysis: Median Width Summary

EXISTING CONDITIONS

March 19, 2019 (Draft)

Note: Median width does not have influence on crash calculations where barrier is present

Both Directions

Stationing			Median Width	
Start	*End*	*Median Type*	*Inside shoulder edge to inside shoulder edge* [1]	
			Start Width (ft)	End Width (ft)
392+00	562+20	Non-Traversable Median	6.0	6.0
562+20	568+97	Non-Traversable Median	6.0	29.0
568+97	570+48	Non-Traversable Median	29.0	29.0
570+48	571+53	Non-Traversable Median	29.0	44.0
571+53	592+92	Non-Traversable Median	44.0	44.0
592+92	653+74	Non-Traversable Median	44.0	52.0
653+74	854+25	Non-Traversable Median	52.0	52.0
854+25	910+40	Non-Traversable Median	52.0	52.0
910+40	1235+80	Non-Traversable Median	52.0	53.0
1235+80	1338+61	Non-Traversable Median	53.0	53.0
1338+61	1363+01	Non-Traversable Median	53.0	52.0
1363+01	1594+21	Non-Traversable Median	52.0	52.0
1594+21	1715+52	Non-Traversable Median	52.0	54.0
1715+52	1751+50	Non-Traversable Median	54.0	54.0

[1] - IHSDM includes shoulder width automatically. **e.g.** 6 ft = face-to-face for barrier location

Not coded because there is a barrier type that is closer to the travel lanes

Decreasing Stations: I-41 SB (Left)

Stationing				Median Barrier		
Start	*End*	*Side of Road*	*Location*	Present?	Type?	Offset (ft)[1]
39200.00	57048.00	Left	South Project Limit to STH 15	Yes	Barrier	11.0
57048.00	57131.00	Left	STH 96 to STH 15	Yes	Beam	11.0
57274.00	58803.00	Left	STH 96 to STH 15	Yes	Cable	15.0
57464.00	57608.00	Left	STH 96 to STH 15	Yes	Beam	20.0
58955.00	59185.00	Left	STH 96 to STH 15	Yes	Beam	18.0
61662.00	61842.00	Left	STH 15 to STH 47	Yes	Beam	18.0
61968.00	63038.00	Left	STH 15 to STH 47	Yes	Cable	13.0
66652.00	66885.00	Left	STH 15 to STH 47	Yes	Beam	23.0
68900.00	69309.00	Left	STH 15 to STH 47	Yes	Cable	15.0
69309.00	69761.00	Left	STH 15 to STH 47	Yes	Beam	5.0
69761.00	70705.00	Left	STH 15 to STH 47	Yes	Cable	15.0
70705.00	71120.00	Left	STH 15 to STH 47	Yes	Beam	5.0
72067.00	74782.00	Left	STH 15 to STH 47	Yes	Cable	15.0
74782.00	74904.00	Left	STH 47	Yes	Beam	24.0
76833.00	78815.00	Left	STH 47 to CTH E	Yes	Cable	15.0
79903.00	80097.00	Left	STH 47 to CTH E	Yes	Beam	23.0
80097.00	81918.00	Left	STH 47 to CTH E	Yes	Cable	15.0
82815.00	86914.00	Left	STH 47 to CTH E	Yes	Cable	15.0
85252.00	85484.00	Left	CTH E	Yes	Beam	24.0
87883.00	90289.00	Left	CTH E to STH 441	Yes	Cable	15.0
90289.00	90456.00	Left	STH 441	Yes	Beam	24.0
90923.00	91092.00	Left	STH 441 to CTH N	Yes	Beam	23.0
91092.00	92210.00	Left	STH 441 to CTH N	Yes	Cable	15.0
94120.00	96345.00	Left	STH 441 to CTH N	Yes	Cable	15.0
96345.00	96406.00	Left	STH 441 to CTH N	Yes	Beam	23.0
98881.00	99050.00	Left	STH 441 to CTH N	Yes	Beam	23.0
99728.00	101602.00	Left	STH 441 to CTH N	Yes	Cable	15.0
101602.00	101711.00	Left	CTH N	Yes	Beam	23.0
103591.00	104271.00	Left	CTH N to STH 55	Yes	Cable	14.0
104271.00	104332.00	Left	CTH N to STH 55	Yes	Beam	22.0
108088.00	108257.00	Left	CTH N to STH 55	Yes	Beam	23.0
110044.00	112279.00	Left	CTH N to STH 55	Yes	Cable	14.0
112290.00	112410.00	Left	STH 55	Yes	Barrier	7.0
112410.00	112748.00	Left	STH 55	Yes	Beam	7.0
113503.00	113614.00	Left	STH 55 to CTH J	Yes	Barrier	7.0
113614.00	113956.00	Left	STH 55 to CTH J	Yes	Beam	7.0
115476.00	118756.00	Left	STH 55 to CTH J	Yes	Cable	14.0
118756.00	118821.00	Left	CTH J	Yes	Beam	22.0
121770.00	123239.00	Left	CTH J to CTH U	Yes	Cable	14.0
125005.00	125150.00	Left	CTH J to CTH U	Yes	Barrier	5.0
125150.00	125455.00	Left	CTH J to CTH U	Yes	Beam	5.0
127808.00	129473.00	Left	CTH J to CTH U	Yes	Cable	15.0
132130.00	132285.00	Left	CTH J to CTH U	Yes	Barrier	5.0
132285.00	132592.00	Left	CTH J to CTH U	Yes	Beam	5.0
132592.00	134138.00	Left	CTH J to CTH U	Yes	Cable	15.0
135606.00	137634.00	Left	CTH J to CTH U	Yes	Cable	15.0
139038.00	140981.00	Left	CTH U	Yes	Cable	15.0
141027.00	141191.00	Left	CTH U	Yes	Barrier	5.0

Increasing Stations: I-41 NB (Right)

Stationing				Median Barrier		
Start	*End*	*Side of Road*	*Location*	Present?	Type?	Offset (ft)[1]
39200.00	57048.00	Right	South Project Limit to STH 15	Yes	Barrier	11.0
57048.00	57220.00	Right	STH 96 to STH 15	Yes	Cable	11.0
57464.00	57608.00	Right	STH 96 to STH 15	Yes	Beam	17.0
58955.00	59015.00	Right	STH 96 to STH 15	Yes	Beam	17.0
59015.00	61909.00	Right	STH 96 to STH 15	Yes	Cable	14.0
61662.00	61842.00	Right	STH 15 to STH 47	Yes	Beam	20.0
62759.00	68846.00	Right	STH 15 to STH 47	Yes	Cable	14.0
66652.00	66885.00	Right	STH 15 to STH 47	Yes	Beam	23.0
69030.00	69484.00	Right	STH 15 to STH 47	Yes	Beam	5.0
70418.00	70833.00	Right	STH 15 to STH 47	Yes	Beam	5.0
70833.00	71999.00	Right	STH 15 to STH 47	Yes	Cable	14.0
74672.00	74858.00	Right	STH 15 to STH 47	Yes	Beam	22.0
74858.00	76764.00	Right	STH 47	Yes	Cable	14.0
78593.00	79925.00	Right	STH 47 to CTH E	Yes	Cable	14.0
79925.00	80097.00	Right	STH 47 to CTH E	Yes	Beam	24.0
81706.00	82747.00	Right	STH 47 to CTH E	Yes	Cable	14.0
85252.00	85484.00	Right	CTH E	Yes	Beam	21.0
86720.00	87813.00	Right	CTH E to STH 441	Yes	Cable	14.0
90186.00	90347.00	Right	STH 441	Yes	Beam	22.0
90347.00	90929.00	Right	STH 441 to CTH N	Yes	Cable	14.0
90929.00	91092.00	Right	STH 441 to CTH N	Yes	Beam	22.0
91997.00	94044.00	Right	STH 441 to CTH N	Yes	Cable	14.0
96236.00	96300.00	Right	STH 441 to CTH N	Yes	Beam	23.0
96300.00	99677.00	Right	STH 441 to CTH N	Yes	Cable	14.0
98881.00	99050.00	Right	STH 441 to CTH N	Yes	Beam	22.0
101491.00	101600.00	Right	STH 441 to CTH N	Yes	Beam	23.0
101600.00	103527.00	Right	CTH N	Yes	Cable	14.0
104162.00	104237.00	Right	CTH N to STH 55	Yes	Beam	23.0
104237.00	109994.00	Right	CTH N to STH 55	Yes	Cable	14.0
108088.00	108257.00	Right	CTH N to STH 55	Yes	Beam	23.0
111963.00	112307.00	Right	CTH N to STH 55	Yes	Beam	7.0
112307.00	112426.00	Right	CTH N to STH 55	Yes	Barrier	7.0
112426.00	113119.00	Right	STH 55	Yes	Cable	14.0
113119.00	113486.00	Right	STH 55 to CTH J	Yes	Beam	7.0
113486.00	113598.00	Right	STH 55 to CTH J	Yes	Barrier	7.0
113598.00	115422.00	Right	STH 55 to CTH J	Yes	Cable	15.0
118651.00	118776.00	Right	CTH J	Yes	Beam	21.0
118776.00	121704.00	Right	CTH J to CTH U	Yes	Cable	15.0
123179.00	124710.00	Right	CTH J to CTH U	Yes	Cable	15.0
124710.00	125016.00	Right	CTH J to CTH U	Yes	Beam	5.0
125016.00	125161.00	Right	CTH J to CTH U	Yes	Barrier	5.0
125161.00	128054.00	Right	CTH J to CTH U	Yes	Cable	15.0
129540.00	131846.00	Right	CTH J to CTH U	Yes	Cable	15.0
131846.00	132150.00	Right	CTH J to CTH U	Yes	Beam	5.0
132150.00	132307.00	Right	CTH J to CTH U	Yes	Barrier	5.0
133860.00	135536.00	Right	CTH J to CTH U	Yes	Cable	15.0
135624.00	136303.00	Right	CTH J to CTH U	Yes	Cable	15.0
137382.00	138974.00	Right	CTH J to CTH U	Yes	Cable	15.0

Not coded because there is a barrier type that is closer to the travel lanes

Decreasing Stations: I-41 SB (Left)

Stationing				Median Barrier		
Start	*End*	*Side of Road*	*Location*	Present?	Type?	Offset (ft)[1]
141191.00	141496.00	Left	CTH U	Yes	Beam	5.0
141496.00	143562.00	Left	CTH U to CTH S	Yes	Cable	15.0
143562.00	143709.00	Left	CTH U to CTH S	Yes	Barrier	5.0
143709.00	143939.00	Left	CTH U to CTH S	Yes	Beam	5.0
143939.00	144735.00	Left	CTH U to CTH S	Yes	Cable	15.0
148295.00	150453.00	Left	CTH U to CTH S	Yes	Cable	15.0
152778.00	154695.00	Left	CTH U to CTH S	Yes	Cable	15.0
156613.00	156816.00	Left	CTH S	Yes	Beam	23.0
156816.00	158493.00	Left	CTH S to North Project Limit	Yes	Cable	15.0
160350.00	161211.00	Left	CTH S to North Project Limit	Yes	Cable	15.0
161211.00	161339.00	Left	CTH S to North Project Limit	Yes	Barrier	5.0
161339.00	161646.00	Left	CTH S to North Project Limit	Yes	Beam	5.0
163388.00	165966.00	Left	CTH S to North Project Limit	Yes	Cable	15.0
168428.00	170937.00	Left	CTH S to North Project Limit	Yes	Cable	15.0
173421.00	173657.00	Left	CTH S to North Project Limit	Yes	Barrier	>30

Increasing Stations: I-41 NB (Right)

Stationing				Median Barrier		
Start	*End*	*Side of Road*	*Location*	Present?	Type?	Offset (ft)[1]
140684.00	140989.00	Right	CTH U	Yes	Beam	5.0
140989.00	141154.00	Right	CTH U	Yes	Barrier	5.0
143293.00	143571.00	Right	CTH U to CTH S	Yes	Beam	5.0
143571.00	143711.00	Right	CTH U to CTH S	Yes	Barrier	5.0
144807.00	148817.00	Right	CTH U to CTH S	Yes	Cable	15.0
150203.00	152707.00	Right	CTH U to CTH S	Yes	Cable	15.0
154479.00	156721.00	Right	CTH S	Yes	Cable	15.0
156721.00	156816.00	Right	CTH S	Yes	Beam	23.0
158392.00	160273.00	Right	CTH S to North Project Limit	Yes	Cable	15.0
160892.00	161181.00	Right	CTH S to North Project Limit	Yes	Beam	5.0
161181.00	161377.00	Right	CTH S to North Project Limit	Yes	Barrier	5.0
161377.00	163481.00	Right	CTH S to North Project Limit	Yes	Cable	15.0
165665.00	168356.00	Right	CTH S to North Project Limit	Yes	Cable	15.0
170802.00	173385.00	Right	CTH S to North Project Limit	Yes	Cable	15.0
173421.00	173657.00	Right	CTH S to North Project Limit	Yes	Barrier	15.0

[1] - Specify the value as the distance from the edge of the leftmost thru lane to the face of the barrier. (Value from edge of leftmost thru lane if centered)

Areas highlighted gray represent tapers for guardrail energy absorption terminals (EATs)

Decreasing Stations: I-41 SB (Left)

Stationing			Shoulder Characteristics								Coding Priority
							Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Approximate Location*	*Start*	*End*	*Material*	*Rumble Strips?*	
39200.00	40530.00	Left	Outside	0.00	0.00	Beginning to CTH BB	12.0	12.0	Paved	Yes	50
40530.00	40580.00	Left	Outside	0.00	0.00	Beginning to CTH BB	12.0	10.0	Paved	Yes	50
40580.00	41137.00	Left	Outside	0.00	0.00	Beginning to CTH BB	10.0	10.0	Paved	Yes	50
41137.00	41773.00	Left	Outside	0.00	0.00	Beginning to CTH BB	8.0	8.0	Paved	Yes	50
41773.00	42130.00	Left	Outside	0.00	0.00	Beginning to CTH BB	8.0	8.0	Paved	No	50
42130.00	42836.00	Left	Outside	0.00	0.00	Beginning to CTH BB	10.0	10.0	Paved	Yes	50
42836.00	43070.00	Left	Outside	0.00	0.00	CTH BB Bridge	10.0	10.0	Paved	No	50
43070.00	43838.00	Left	Outside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	Yes	50
43838.00	44654.00	Left	Outside	0.00	0.00	CTH BB to STH 125	8.0	8.0	Paved	No	50
44654.00	44830.00	Left	Outside	0.00	0.00	CTH BB to STH 125	8.0	10.0	Paved	No	50
44830.00	47143.00	Left	Outside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	Yes	50
47143.00	47228.00	Left	Outside	0.00	0.00	CTH BB to STH 125	10.0	8.0	Paved	Yes	50
47228.00	47723.00	Left	Outside	0.00	0.00	CTH BB to STH 125	8.0	8.0	Paved	Yes	50
47723.00	48490.00	Left	Outside	0.00	0.00	CTH BB to STH 125	8.0	8.0	Paved	No	50
48490.00	49400.00	Left	Outside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	Yes	50
49400.00	49642.00	Left	Outside	0.00	0.00	STH 125 Bridge	10.0	10.0	Paved	No	50
49642.00	50372.00	Left	Outside	0.00	0.00	STH 125 to STH 96	10.0	10.0	Paved	Yes	50
50372.00	50518.00	Left	Outside	0.00	0.00	STH 125 to STH 96	5.0	5.0	Paved	No	50
50518.00	50556.00	Left	Outside	0.00	0.00	STH 125 to STH 96	5.0	8.0	Paved	No	50
50556.00	50817.00	Left	Outside	0.00	0.00	STH 125 to STH 96	8.0	8.0	Paved	No	50
50817.00	51043.00	Left	Outside	0.00	0.00	STH 125 to STH 96	8.0	12.0	Paved	No	50
51043.00	52017.00	Left	Outside	0.00	0.00	STH 125 to STH 96	12.0	12.0	Paved	Yes	50
52017.00	52253.00	Left	Outside	0.00	0.00	STH 125 to STH 96	12.0	8.0	Paved	Yes	50
52253.00	52659.00	Left	Outside	0.00	0.00	STH 125 to STH 96	8.0	8.0	Paved	Yes	50
52659.00	52907.00	Left	Outside	0.00	0.00	STH 125 to STH 96	8.0	8.0	Paved	No	50
52907.00	53508.00	Left	Outside	0.00	0.00	STH 125 to STH 96	10.0	10.0	Paved	Yes	50
53508.00	53748.00	Left	Outside	0.00	0.00	STH 96 Bridge	10.0	10.0	Paved	No	50
53748.00	54414.00	Left	Outside	0.00	0.00	STH 96 to STH 15	10.0	10.0	Paved	Yes	50
54414.00	55130.00	Left	Outside	0.00	0.00	STH 96 to STH 15	8.0	8.0	Paved	No	50
55130.00	55323.00	Left	Outside	0.00	0.00	STH 96 to STH 15	8.0	12.0	Paved	No	50
55323.00	55491.00	Left	Outside	0.00	0.00	STH 96 to STH 15	12.0	12.0	Paved	Yes	50
55491.00	55756.00	Left	Outside	0.00	0.00	STH 96 to STH 15	12.0	12.0	Paved	No	50
55756.00	56061.00	Left	Outside	0.00	0.00	STH 96 to STH 15	12.0	12.0	Paved	Yes	50
56061.00	56212.00	Left	Outside	0.00	0.00	STH 96 to STH 15	12.0	11.0	Paved	Yes	50
56212.00	56527.00	Left	Outside	0.00	0.00	STH 96 to STH 15	11.0	14.0	Paved	Yes	50
56527.00	56687.00	Left	Outside	0.00	0.00	STH 96 to STH 15	14.0	12.0	Paved	Yes	50
56687.00	57442.00	Left	Outside	0.00	0.00	STH 96 to STH 15	12.0	12.0	Paved	Yes	50
57442.00	57542.00	Left	Outside	0.00	0.00	STH 96 to STH 15	12.0	10.0	Paved	Yes	50
57542.00	58927.00	Left	Outside	0.00	0.00	STH 96 to STH 15	10.0	10.0	Paved	Yes	50
58927.00	59158.00	Left	Outside	0.00	0.00	Under STH 15	10.0	5.0	Paved	Yes	50
59158.00	59284.00	Left	Outside	0.00	0.00	STH 15 to STH 47	5.0	5.0	Paved	No	50

Areas highlighted gray represent tapers for guardrail energy absorption terminals (EATs)

Decreasing Stations: I-41 SB (Left)

Stationing			Shoulder Characteristics								Coding Priority
							Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Approximate Location*	*Start*	*End*	*Material*	*Rumble Strips?*	
59284.00	60209.00	Left	Outside	0.00	0.00	STH 15 to STH 47	10.0	10.0	Paved	Yes	50
60209.00	60356.00	Left	Outside	0.00	0.00	STH 15 to STH 47	5.0	5.0	Paved	No	50
60356.00	60814.00	Left	Outside	0.00	0.00	STH 15 to STH 47	5.0	5.0	Paved	Yes	50
60814.00	60953.00	Left	Outside	0.00	0.00	STH 15 to STH 47	5.0	13.0	Paved	Yes	50
60953.00	61040.00	Left	Outside	0.00	0.00	STH 15 to STH 47	13.0	10.0	Paved	Yes	50
61040.00	61602.00	Left	Outside	0.00	0.00	STH 15 to STH 47	10.0	10.0	Paved	Yes	50
61602.00	61676.00	Left	Outside	0.00	0.00	STH 15 to STH 47	10.0	9.0	Paved	Yes	50
61676.00	61735.00	Left	Outside	0.00	0.00	Under Capitol Drive	8.0	8.0	Paved	Yes	50
61735.00	61784.00	Left	Outside	0.00	0.00	STH 15 to STH 47	8.0	9.0	Paved	Yes	50
61784.00	62074.00	Left	Outside	0.00	0.00	STH 15 to STH 47	9.0	9.0	Paved	Yes	50
62074.00	62182.00	Left	Outside	0.00	0.00	STH 15 to STH 47	9.0	10.0	Paved	Yes	50
62182.00	69233.00	Left	Outside	0.00	0.00	STH 15 to STH 47	10.0	10.0	Paved	Yes	50
69233.00	69328.00	Left	Outside	0.00	0.00	STH 15 to STH 47	10.0	4.0	Paved	Yes	50
69328.00	69463.00	Left	Outside	0.00	0.00	STH 15 to STH 47 - RR Bridge	4.0	4.0	Paved	No	50
69463.00	69584.00	Left	Outside	0.00	0.00	STH 15 to STH 47	4.0	10.0	Paved	Yes	50
69584.00	70619.00	Left	Outside	0.00	0.00	STH 15 to STH 47	10.0	10.0	Paved	Yes	50
70619.00	70716.00	Left	Outside	0.00	0.00	STH 15 to STH 47	10.0	4.0	Paved	Yes	50
70716.00	70824.00	Left	Outside	0.00	0.00	STH 15 to STH 47	4.0	4.0	Paved	No	50
70824.00	70977.00	Left	Outside	0.00	0.00	STH 15 to STH 47	4.0	10.0	Paved	Yes	50
70977.00	71403.00	Left	Outside	0.00	0.00	STH 15 to STH 47	10.0	10.0	Paved	Yes	50
71403.00	71469.00	Left	Outside	0.00	0.00	STH 15 to STH 47	10.0	12.0	Paved	Yes	50
71469.00	71509.00	Left	Outside	0.00	0.00	STH 15 to STH 47	12.0	10.0	Paved	Yes	50
71509.00	73571.00	Left	Outside	0.00	0.00	STH 15 to STH 47	10.0	10.0	Paved	Yes	50
73571.00	73841.00	Left	Outside	0.00	0.00	STH 15 to STH 47	10.0	7.0	Paved	Yes	50
73841.00	76019.00	Left	Outside	0.00	0.00	Under STH 47	10.0	10.0	Paved	Yes	50
76019.00	76240.00	Left	Outside	0.00	0.00	STH 47 to CTH E	7.0	7.0	Paved	No	50
76240.00	76344.00	Left	Outside	0.00	0.00	STH 47 to CTH E	7.0	10.0	Paved	No	50
76344.00	83763.00	Left	Outside	0.00	0.00	STH 47 to CTH E	10.0	10.0	Paved	Yes	50
83763.00	83943.00	Left	Outside	0.00	0.00	STH 47 to CTH E	10.0	8.0	Paved	Yes	50
83943.00	84385.00	Left	Outside	0.00	0.00	STH 47 to CTH E	8.0	8.0	Paved	Yes	50
84385.00	84607.00	Left	Outside	0.00	0.00	STH 47 to CTH E	8.0	6.0	Paved	No	50
84607.00	84678.00	Left	Outside	0.00	0.00	STH 47 to CTH E	6.0	6.0	Paved	No	50
84678.00	86137.00	Left	Outside	0.00	0.00	Under CTH E	10.0	10.0	Paved	Yes	50
86137.00	86210.00	Left	Outside	0.00	0.00	CTH E to STH 441	8.0	6.0	Paved	No	50
86210.00	86399.00	Left	Outside	0.00	0.00	CTH E to STH 441	6.0	10.0	Paved	No	50
86399.00	86744.00	Left	Outside	0.00	0.00	CTH E to STH 441	10.0	10.0	Paved	Yes	50
86744.00	86795.00	Left	Outside	0.00	0.00	CTH E to STH 441	10.0	12.0	Paved	Yes	50
86795.00	86825.00	Left	Outside	0.00	0.00	CTH E to STH 441	12.0	10.0	Paved	Yes	50
86825.00	88372.00	Left	Outside	0.00	0.00	CTH E to STH 441	10.0	10.0	Paved	Yes	50
88372.00	88454.00	Left	Outside	0.00	0.00	CTH E to STH 441	10.0	8.0	Paved	Yes	50
88454.00	88499.00	Left	Outside	0.00	0.00	CTH E to STH 441	8.0	10.0	Paved	Yes	50

Areas highlighted gray represent tapers for guardrail energy absorption terminals (EATs)

Decreasing Stations: I-41 SB (Left)

Stationing			Shoulder Characteristics								Coding Priority
							Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Approximate Location*	*Start*	*End*	*Material*	*Rumble Strips?*	
88499.00	88529.00	Left	Outside	0.00	0.00	CTH E to STH 441	10.0	6.0	Paved	No	50
88529.00	88925.00	Left	Outside	0.00	0.00	CTH E to STH 441	6.0	6.0	Paved	No	50
88925.00	90128.00	Left	Outside	0.00	0.00	CTH E to STH 441	10.0	10.0	Paved	Yes	50
90128.00	90374.00	Left	Outside	0.00	0.00	Under STH 441	5.0	5.0	Paved	No	50
90374.00	90463.00	Left	Outside	0.00	0.00	STH 441 to CTH N	5.0	10.0	Paved	No	50
90463.00	93128.00	Left	Outside	0.00	0.00	STH 441 to CTH N	10.0	10.0	Paved	Yes	50
93128.00	93177.00	Left	Outside	0.00	0.00	STH 441 to CTH N	10.0	12.0	Paved	Yes	50
93177.00	93197.00	Left	Outside	0.00	0.00	STH 441 to CTH N	12.0	10.0	Paved	Yes	50
93197.00	97095.00	Left	Outside	0.00	0.00	STH 441 to CTH N	10.0	10.0	Paved	Yes	50
97095.00	97155.00	Left	Outside	0.00	0.00	STH 441 to CTH N	10.0	12.0	Paved	Yes	50
97155.00	97185.00	Left	Outside	0.00	0.00	STH 441 to CTH N	12.0	10.0	Paved	Yes	50
97185.00	99226.00	Left	Outside	0.00	0.00	STH 441 to CTH N	10.0	10.0	Paved	Yes	50
99226.00	99276.00	Left	Outside	0.00	0.00	STH 441 to CTH N	10.0	12.0	Paved	Yes	50
99276.00	99306.00	Left	Outside	0.00	0.00	STH 441 to CTH N	12.0	10.0	Paved	Yes	50
99306.00	100000.00	Left	Outside	0.00	0.00	STH 441 to CTH N	10.0	10.0	Paved	Yes	50
100000.00	100092.00	Left	Outside	0.00	0.00	STH 441 to CTH N	10.0	8.0	Paved	Yes	50
100092.00	100604.00	Left	Outside	0.00	0.00	STH 441 to CTH N	8.0	8.0	Paved	Yes	50
100604.00	100689.00	Left	Outside	0.00	0.00	STH 441 to CTH N	8.0	6.0	Paved	No	50
100689.00	100832.00	Left	Outside	0.00	0.00	STH 441 to CTH N	6.0	6.0	Paved	No	50
100832.00	102474.00	Left	Outside	0.00	0.00	Under CTH N	10.0	10.0	Paved	Yes	50
102474.00	102994.00	Left	Outside	0.00	0.00	CTH N to STH 55	5.0	5.0	Paved	No	50
102994.00	103071.00	Left	Outside	0.00	0.00	CTH N to STH 55	5.0	10.0	Paved	No	50
103071.00	104491.00	Left	Outside	0.00	0.00	CTH N to STH 55	10.0	10.0	Paved	Yes	50
104491.00	104544.00	Left	Outside	0.00	0.00	CTH N to STH 55	10.0	12.0	Paved	Yes	50
104544.00	104564.00	Left	Outside	0.00	0.00	CTH N to STH 55	12.0	10.0	Paved	Yes	50
104564.00	108449.00	Left	Outside	0.00	0.00	CTH N to STH 55	10.0	10.0	Paved	Yes	50
108449.00	108493.00	Left	Outside	0.00	0.00	CTH N to STH 55	10.0	12.0	Paved	Yes	50
108493.00	108523.00	Left	Outside	0.00	0.00	CTH N to STH 55	12.0	10.0	Paved	Yes	50
108523.00	110800.00	Left	Outside	0.00	0.00	CTH N to STH 55	10.0	10.0	Paved	Yes	50
110800.00	110891.00	Left	Outside	0.00	0.00	CTH N to STH 55	10.0	8.0	Paved	Yes	50
110891.00	111406.00	Left	Outside	0.00	0.00	CTH N to STH 55	8.0	8.0	Paved	Yes	50
111406.00	111595.00	Left	Outside	0.00	0.00	CTH N to STH 55	8.0	7.0	Paved	Yes	50
111595.00	112275.00	Left	Outside	0.00	0.00	CTH N to STH 55	10.0	10.0	Paved	Yes	50
112275.00	112398.00	Left	Outside	0.00	0.00	STH 55 Bridge	10.0	10.0	Paved	No	50
112398.00	113033.00	Left	Outside	0.00	0.00	STH 55 to CTH J	10.0	10.0	Paved	Yes	50
113033.00	113631.00	Left	Outside	0.00	0.00	STH 55 to CTH J	10.0	10.0	Paved	No	50
113631.00	114502.00	Left	Outside	0.00	0.00	STH 55 to CTH J	10.0	10.0	Paved	Yes	50
114502.00	114548.00	Left	Outside	0.00	0.00	STH 55 to CTH J	10.0	12.0	Paved	Yes	50
114548.00	114568.00	Left	Outside	0.00	0.00	STH 55 to CTH J	12.0	10.0	Paved	Yes	50
114568.00	117235.00	Left	Outside	0.00	0.00	STH 55 to CTH J	10.0	10.0	Paved	Yes	50
117235.00	117394.00	Left	Outside	0.00	0.00	STH 55 to CTH J	10.0	5.0	Paved	Yes	50

Areas highlighted gray represent tapers for guardrail energy absorption terminals (EATs)

Decreasing Stations: I-41 SB (Left)

Stationing			Shoulder Characteristics								Coding Priority
							Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Approximate Location*	*Start*	*End*	*Material*	*Rumble Strips?*	
117394.00	117818.00	Left	Outside	0.00	0.00	STH 55 to CTH J	5.0	5.0	Paved	Yes	50
117818.00	117929.00	Left	Outside	0.00	0.00	STH 55 to CTH J	5.0	5.0	Paved	No	50
117929.00	119520.00	Left	Outside	0.00	0.00	Under CTH J	10.0	10.0	Paved	Yes	50
119520.00	120018.00	Left	Outside	0.00	0.00	CTH J to CTH U	5.0	5.0	Paved	No	50
120018.00	120224.00	Left	Outside	0.00	0.00	CTH J to CTH U	5.0	10.0	Paved	No	50
120224.00	124800.00	Left	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	Yes	50
124800.00	125474.00	Left	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	No	50
125474.00	132106.00	Left	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	Yes	50
132106.00	132275.00	Left	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	No	50
132275.00	138847.00	Left	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	Yes	50
138847.00	139097.00	Left	Outside	0.00	0.00	CTH J to CTH U	10.0	5.0	Paved	Yes	50
139097.00	139529.00	Left	Outside	0.00	0.00	CTH J to CTH U	5.0	5.0	Paved	Yes	50
139529.00	140294.00	Left	Outside	0.00	0.00	CTH J to CTH U	5.0	5.0	Paved	No	50
140294.00	141011.00	Left	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	Yes	50
141011.00	141328.00	Left	Outside	0.00	0.00	CTH U Bridge	10.0	10.0	Paved	No	50
141328.00	142288.00	Left	Outside	0.00	0.00	CTH U to CTH S	10.0	10.0	Paved	Yes	50
142288.00	142579.00	Left	Outside	0.00	0.00	CTH U to CTH S	5.0	5.0	Paved	No	50
142579.00	142700.00	Left	Outside	0.00	0.00	CTH U to CTH S	5.0	10.0	Paved	No	50
142700.00	142800.00	Left	Outside	0.00	0.00	CTH U to CTH S	10.0	10.0	Paved	No	50
142800.00	143547.00	Left	Outside	0.00	0.00	CTH U to CTH S	10.0	10.0	Paved	Yes	50
143547.00	143704.00	Left	Outside	0.00	0.00	CTH U to CTH S	10.0	10.0	Paved	No	50
143704.00	154281.00	Left	Outside	0.00	0.00	CTH U to CTH S	10.0	10.0	Paved	Yes	50
154281.00	154569.00	Left	Outside	0.00	0.00	CTH U to CTH S	10.0	6.0	Paved	Yes	50
154569.00	155160.00	Left	Outside	0.00	0.00	CTH U to CTH S	6.0	6.0	Paved	Yes	50
155160.00	155765.00	Left	Outside	0.00	0.00	CTH U to CTH S	6.0	6.0	Paved	No	50
155765.00	157803.00	Left	Outside	0.00	0.00	Under CTH S	10.0	10.0	Paved	Yes	50
157803.00	158203.00	Left	Outside	0.00	0.00	CTH S to End	4.0	4.0	Paved	No	50
158203.00	158303.00	Left	Outside	0.00	0.00	CTH S to End	4.0	10.0	Paved	No	50
158303.00	158374.00	Left	Outside	0.00	0.00	CTH S to End	10.0	10.0	Paved	No	50
158374.00	161198.00	Left	Outside	0.00	0.00	CTH S to End	10.0	10.0	Paved	Yes	50
161198.00	161339.00	Left	Outside	0.00	0.00	CTH S to End	10.0	10.0	Paved	No	50
161339.00	173657.00	Left	Outside	0.00	0.00	CTH S to End	10.0	10.0	Paved	Yes	50

Areas highlighted gray represent tapers for guardrail energy absorption terminals (EATs)

Increasing Stations: I-41 NB (Right)

Stationing			Shoulder Characteristics								Coding Priority
							Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Approximate Location*	*Start*	*End*	*Material*	*Rumble Strips?*	
39200.00	40785.00	Right	Outside	0.00	0.00	Beginning to CTH BB	10.0	10.0	Paved	Yes	50
40785.00	40885.00	Right	Outside	0.00	0.00	Beginning to CTH BB	10.0	10.0	Paved	No	50
40885.00	42035.00	Right	Outside	0.00	0.00	Beginning to CTH BB	10.0	10.0	Paved	No	50
42035.00	42500.00	Right	Outside	0.00	0.00	Beginning to CTH BB	10.0	10.0	Paved	Yes	50
42500.00	42800.00	Right	Outside	0.00	0.00	Beginning to CTH BB	10.0	10.0	Paved	Yes	50
42800.00	43050.00	Right	Outside	0.00	0.00	CTH BB Bridge	10.0	10.0	Paved	No	50
43050.00	43830.00	Right	Outside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	Yes	50
43830.00	44595.00	Right	Outside	0.00	0.00	CTH BB to STH 125	8.0	8.0	Paved	No	50
44595.00	44610.00	Right	Outside	0.00	0.00	CTH BB to STH 125	8.0	10.0	Paved	No	50
44610.00	44670.00	Right	Outside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	No	50
44670.00	45150.00	Right	Outside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	Yes	50
45150.00	45250.00	Right	Outside	0.00	0.00	CTH BB to STH 125	10.0	12.0	Paved	Yes	50
45250.00	47600.00	Right	Outside	0.00	0.00	CTH BB to STH 125	12.0	12.0	Paved	Yes	50
47600.00	47715.00	Right	Outside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	Yes	50
47715.00	47950.00	Right	Outside	0.00	0.00	CTH BB to STH 125	10.0	8.0	Paved	No	50
47950.00	48580.00	Right	Outside	0.00	0.00	CTH BB to STH 125	8.0	8.0	Paved	No	50
48580.00	49400.00	Right	Outside	0.00	0.00	CTH BB to STH 125	10.0	10.0	Paved	Yes	50
49400.00	49660.00	Right	Outside	0.00	0.00	STH 125 Bridge	10.0	10.0	Paved	No	50
49660.00	50367.00	Right	Outside	0.00	0.00	STH 125 to STH 96	10.0	10.0	Paved	Yes	50
50367.00	50530.00	Right	Outside	0.00	0.00	STH 125 to STH 96	8.0	8.0	Paved	No	50
50530.00	51010.00	Right	Outside	0.00	0.00	STH 125 to STH 96	8.0	8.0	Paved	Yes	50
51010.00	51060.00	Right	Outside	0.00	0.00	STH 125 to STH 96	8.0	12.0	Paved	Yes	50
51060.00	51860.00	Right	Outside	0.00	0.00	STH 125 to STH 96	12.0	12.0	Paved	Yes	50
51860.00	52640.00	Right	Outside	0.00	0.00	STH 125 to STH 96	12.0	12.0	Paved	No	50
52640.00	53508.00	Right	Outside	0.00	0.00	STH 125 to STH 96	10.0	10.0	Paved	Yes	50
53508.00	53747.00	Right	Outside	0.00	0.00	STH 96 Bridge	10.0	10.0	Paved	No	50
53747.00	54545.00	Right	Outside	0.00	0.00	STH 96 to STH 15	10.0	10.0	Paved	Yes	50
54545.00	54942.00	Right	Outside	0.00	0.00	STH 96 to STH 15	8.0	8.0	Paved	No	50
54942.00	55366.00	Right	Outside	0.00	0.00	STH 96 to STH 15	8.0	8.0	Paved	Yes	50
55366.00	55515.00	Right	Outside	0.00	0.00	STH 96 to STH 15 - RR Bridge	8.0	12.0	Paved	No	50
55515.00	55630.00	Right	Outside	0.00	0.00	STH 96 to STH 15 - RR Bridge	12.0	12.0	Paved	No	50
55630.00	57550.00	Right	Outside	0.00	0.00	STH 96 to STH 15 - RR Bridge	12.0	12.0	Paved	Yes	50
57550.00	57790.00	Right	Outside	0.00	0.00	STH 96 to STH 15	12.0	8.0	Paved	Yes	50
57790.00	57838.00	Right	Outside	0.00	0.00	STH 96 to STH 15	8.0	8.0	Paved	No	50
57838.00	58075.00	Right	Outside	0.00	0.00	STH 96 to STH 15	18.0	12.0	Paved	No	50
58075.00	58150.00	Right	Outside	0.00	0.00	STH 96 to STH 15	12.0	12.0	Paved	No	50
58150.00	60205.00	Right	Outside	0.00	0.00	Under STH 15	10.0	10.0	Paved	Yes	50
60205.00	60377.00	Right	Outside	0.00	0.00	STH 15 to STH 47	6.0	6.0	Paved	No	50
60377.00	60718.00	Right	Outside	0.00	0.00	STH 15 to STH 47	6.0	8.0	Paved	No	50
60718.00	61150.00	Right	Outside	0.00	0.00	STH 15 to STH 47	8.0	10.0	Paved	Yes	50
61150.00	61345.00	Right	Outside	0.00	0.00	STH 15 to STH 47	10.0	10.0	Paved	Yes	50

Areas highlighted gray represent tapers for guardrail energy absorption terminals (EATs)

Increasing Stations: I-41 NB (Right)

Stationing			Shoulder Characteristics								Coding Priority
							Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Approximate Location*	*Start*	*End*	*Material*	*Rumble Strips?*	
61345.00	61410.00	Right	Outside	0.00	0.00	STH 15 to STH 47	10.0	9.0	Paved	Yes	50
61410.00	61723.00	Right	Outside	0.00	0.00	STH 15 to STH 47	9.0	9.0	Paved	Yes	50
61723.00	61774.00	Right	Outside	0.00	0.00	STH 15 to STH 47	9.0	8.0	Paved	Yes	50
61774.00	61830.00	Right	Outside	0.00	0.00	Under Capitol Drive	8.0	8.0	Paved	Yes	50
61830.00	61930.00	Right	Outside	0.00	0.00	STH 15 to STH 47	9.0	10.0	Paved	Yes	50
61930.00	68310.00	Right	Outside	0.00	0.00	STH 15 to STH 47	10.0	10.0	Paved	Yes	50
68310.00	68335.00	Right	Outside	0.00	0.00	STH 15 to STH 47	10.0	12.0	Paved	Yes	50
68335.00	68390.00	Right	Outside	0.00	0.00	STH 15 to STH 47	12.0	10.0	Paved	Yes	50
68390.00	69150.00	Right	Outside	0.00	0.00	STH 15 to STH 47	10.0	10.0	Paved	Yes	50
69150.00	69320.00	Right	Outside	0.00	0.00	STH 15 to STH 47	10.0	4.0	Paved	Yes	50
69320.00	69464.00	Right	Outside	0.00	0.00	STH 15 to STH 47 - RR Bridge	4.0	4.0	Paved	No	50
69464.00	69610.00	Right	Outside	0.00	0.00	STH 15 to STH 47	4.0	10.0	Paved	Yes	50
69610.00	70575.00	Right	Outside	0.00	0.00	STH 15 to STH 47	10.0	10.0	Paved	Yes	50
70575.00	70710.00	Right	Outside	0.00	0.00	STH 15 to STH 47	10.0	4.0	Paved	Yes	50
70710.00	70825.00	Right	Outside	0.00	0.00	STH 15 to STH 47	4.0	4.0	Paved	No	50
70825.00	70940.00	Right	Outside	0.00	0.00	STH 15 to STH 47	4.0	10.0	Paved	Yes	50
70940.00	73447.00	Right	Outside	0.00	0.00	STH 15 to STH 47	10.0	10.0	Paved	Yes	50
73447.00	73700.00	Right	Outside	0.00	0.00	STH 15 to STH 47	10.0	8.0	Paved	No	50
73700.00	75743.00	Right	Outside	0.00	0.00	Under STH 47	10.0	10.0	Paved	Yes	50
75743.00	76000.00	Right	Outside	0.00	0.00	STH 47 to CTH E	6.0	12.0	Paved	Yes	50
76000.00	76100.00	Right	Outside	0.00	0.00	STH 47 to CTH E	12.0	10.0	Paved	Yes	50
76100.00	83919.00	Right	Outside	0.00	0.00	STH 47 to CTH E	10.0	10.0	Paved	Yes	50
83919.00	84365.00	Right	Outside	0.00	0.00	STH 47 to CTH E	10.0	10.0	Paved	No	50
84365.00	84506.00	Right	Outside	0.00	0.00	STH 47 to CTH E	10.0	6.0	Paved	Yes	50
84506.00	84569.00	Right	Outside	0.00	0.00	STH 47 to CTH E	6.0	6.0	Paved	Yes	50
84569.00	86163.00	Right	Outside	0.00	0.00	Under CTH E	10.0	10.0	Paved	Yes	50
86163.00	86211.00	Right	Outside	0.00	0.00	CTH E to STH 441	8.0	6.0	Paved	Yes	50
86211.00	86376.00	Right	Outside	0.00	0.00	CTH E to STH 441	6.0	10.0	Paved	Yes	50
86376.00	889+66	Right	Outside	0.00	0.00	CTH E to STH 441	10.0	10.0	Paved	Yes	50
88966.00	89052.00	Right	Outside	0.00	0.00	CTH E to STH 441	10.0	5.0	Paved	No	50
89052.00	89313.00	Right	Outside	0.00	0.00	CTH E to STH 441	5.0	5.0	Paved	No	50
89313.00	91186.00	Right	Outside	0.00	0.00	Under STH 441	10.0	10.0	Paved	Yes	50
91186.00	91710.00	Right	Outside	0.00	0.00	STH 441 to CTH N	5.0	5.0	Paved	No	50
91710.00	92307.00	Right	Outside	0.00	0.00	STH 441 to CTH N	5.0	10.0	Paved	Yes	50
92307.00	100240.00	Right	Outside	0.00	0.00	STH 441 to CTH N	10.0	10.0	Paved	Yes	50
100240.00	100325.00	Right	Outside	0.00	0.00	STH 441 to CTH N	10.0	8.0	Paved	No	50
100325.00	100598.00	Right	Outside	0.00	0.00	STH 441 to CTH N	8.0	10.0	Paved	No	50
100598.00	100824.00	Right	Outside	0.00	0.00	STH 441 to CTH N	10.0	8.0	Paved	No	50
100824.00	102457.00	Right	Outside	0.00	0.00	Under CTH N	10.0	10.0	Paved	Yes	50
102457.00	102549.00	Right	Outside	0.00	0.00	CTH N to STH 55	6.0	6.0	Paved	No	50
102549.00	102624.00	Right	Outside	0.00	0.00	CTH N to STH 55	6.0	6.0	Paved	Yes	50

Areas highlighted gray represent tapers for guardrail energy absorption terminals (EATs)

Increasing Stations: I-41 NB (Right)

Stationing			Shoulder Characteristics								Coding Priority
							Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Approximate Location*	*Start*	*End*	*Material*	*Rumble Strips?*	
102624.00	103144.00	Right	Outside	0.00	0.00	CTH N to STH 55	6.0	10.0	Paved	Yes	50
103144.00	111090.00	Right	Outside	0.00	0.00	CTH N to STH 55	10.0	10.0	Paved	Yes	50
111090.00	111357.00	Right	Outside	0.00	0.00	CTH N to STH 55	10.0	8.0	Paved	No	50
111357.00	111525.00	Right	Outside	0.00	0.00	CTH N to STH 55	8.0	8.0	Paved	No	50
111525.00	111650.00	Right	Outside	0.00	0.00	CTH N to STH 55	8.0	6.0	Paved	No	50
111650.00	111780.00	Right	Outside	0.00	0.00	CTH N to STH 55	6.0	6.0	Paved	No	50
111780.00	112318.00	Right	Outside	0.00	0.00	CTH N to STH 55	10.0	10.0	Paved	Yes	50
112318.00	112437.00	Right	Outside	0.00	0.00	STH 55 Bridge	10.0	10.0	Paved	No	50
112437.00	113253.00	Right	Outside	0.00	0.00	STH 55 to CTH J	10.0	10.0	Paved	Yes	50
113253.00	113582.00	Right	Outside	0.00	0.00	STH 55 to CTH J	6.0	6.0	Paved	No	50
113582.00	114077.00	Right	Outside	0.00	0.00	STH 55 to CTH J	6.0	10.0	Paved	Yes	50
114077.00	117321.00	Right	Outside	0.00	0.00	STH 55 to CTH J	10.0	10.0	Paved	Yes	50
117321.00	117488.00	Right	Outside	0.00	0.00	STH 55 to CTH J	10.0	6.0	Paved	No	50
117488.00	117780.00	Right	Outside	0.00	0.00	STH 55 to CTH J	6.0	6.0	Paved	No	50
117780.00	119348.00	Right	Outside	0.00	0.00	Under CTH J	10.0	10.0	Paved	Yes	50
119348.00	119534.00	Right	Outside	0.00	0.00	CTH J to CTH U	4.0	4.0	Paved	Yes	50
119534.00	120014.00	Right	Outside	0.00	0.00	CTH J to CTH U	4.0	10.0	Paved	Yes	50
120014.00	124821.00	Right	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	Yes	50
124821.00	125358.00	Right	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	No	50
125358.00	132182.00	Right	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	Yes	50
132182.00	132343.00	Right	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	No	50
132343.00	135428.00	Right	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	Yes	50
135428.00	135578.00	Right	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	No	50
135578.00	135641.00	Right	Outside	0.00	0.00	Weigh Station Exit	10.0	5.0	Paved	No	50
135641.00	136059.00	Right	Outside	0.00	0.00	Weigh Station Exit	5.0	5.0	Paved	No	50
136059.00	138026.00	Right	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	Yes	50
138026.00	138236.00	Right	Outside	0.00	0.00	Weigh Station Entrance	5.0	5.0	Paved	No	50
138236.00	138391.00	Right	Outside	0.00	0.00	Weigh Station Entrance	5.0	10.0	Paved	Yes	50
138391.00	139474.00	Right	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	Yes	50
139474.00	139574.00	Right	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	No	50
139574.00	139640.00	Right	Outside	0.00	0.00	CTH J to CTH U	10.0	4.0	Paved	No	50
139640.00	139993.00	Right	Outside	0.00	0.00	CTH J to CTH U	4.0	4.0	Paved	No	50
139993.00	140507.00	Right	Outside	0.00	0.00	CTH J to CTH U	10.0	10.0	Paved	Yes	50
140507.00	140758.00	Right	Outside	0.00	0.00	CTH J to CTH U	10.0	6.0	Paved	Yes	50
140758.00	140877.00	Right	Outside	0.00	0.00	CTH J to CTH U	6.0	10.0	Paved	Yes	50
140877.00	141176.00	Right	Outside	0.00	0.00	CTH U Bridge	10.0	10.0	Paved	No	50
141176.00	141747.00	Right	Outside	0.00	0.00	CTH U to CTH S	10.0	10.0	Paved	Yes	50
141747.00	142306.00	Right	Outside	0.00	0.00	CTH U to CTH S	6.0	6.0	Paved	No	50
142306.00	142836.00	Right	Outside	0.00	0.00	CTH U to CTH S	6.0	6.0	Paved	Yes	50
142836.00	142946.00	Right	Outside	0.00	0.00	CTH U to CTH S	6.0	10.0	Paved	Yes	50
142946.00	143532.00	Right	Outside	0.00	0.00	CTH U to CTH S	10.0	10.0	Paved	Yes	50

I-41 IHSDM Analysis: Outside Shoulder Width Summary

EXISTING CONDITIONS

March 19, 2019 (Draft)

Areas highlighted gray represent tapers for guardrail energy absorption terminals (EATs)

Increasing Stations: I-41 NB (Right)

Stationing			Shoulder Characteristics								Coding Priority
							Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Approximate Location*	*Start*	*End*	*Material*	*Rumble Strips?*	
143532.00	143704.00	Right	Outside	0.00	0.00	CTH U to CTH S	10.0	10.0	Paved	No	50
143704.00	155129.00	Right	Outside	0.00	0.00	CTH U to CTH S	10.0	10.0	Paved	Yes	50
155129.00	155229.00	Right	Outside	0.00	0.00	CTH U to CTH S	10.0	10.0	Paved	No	50
155229.00	155305.00	Right	Outside	0.00	0.00	CTH U to CTH S	10.0	4.0	Paved	No	50
155305.00	155654.00	Right	Outside	0.00	0.00	CTH U to CTH S	4.0	4.0	Paved	No	50
155654.00	157697.00	Right	Outside	0.00	0.00	Under CTH S	10.0	10.0	Paved	Yes	50
157697.00	158350.00	Right	Outside	0.00	0.00	CTH S To End	5.0	5.0	Paved	No	50
158350.00	158793.00	Right	Outside	0.00	0.00	CTH S To End	5.0	5.0	Paved	Yes	50
158793.00	159126.00	Right	Outside	0.00	0.00	CTH S To End	5.0	10.0	Paved	Yes	50
159126.00	160917.00	Right	Outside	0.00	0.00	CTH S To End	10.0	10.0	Paved	Yes	50
160917.00	160982.00	Right	Outside	0.00	0.00	CTH S To End	10.0	8.0	Paved	Yes	50
160982.00	161197.00	Right	Outside	0.00	0.00	CTH S To End	8.0	8.0	Paved	Yes	50
161197.00	161341.00	Right	Outside	0.00	0.00	CTH S To End	8.0	8.0	Paved	No	50
161341.00	161805.00	Right	Outside	0.00	0.00	CTH S To End	8.0	8.0	Paved	Yes	50
161805.00	161870.00	Right	Outside	0.00	0.00	CTH S To End	8.0	10.0	Paved	Yes	50
161870.00	173657.00	Right	Outside	0.00	0.00	CTH S To End	10.0	10.0	Paved	Yes	50

I-41 IHSDM Analysis: Outside Barrier and Clear Zone Summary

EXISTING CONDITIONS

March 19, 2019 (Draft)

Decreasing Stations: I-41 SB (Left)

Stationing			Outside Barrier				Clear Zone
Start	*End*	*Approximate Location*	Present?	Type?	Offset (ft)	Part of Freeway? If >30', then no.	Distance (feet)
39200.00	39517.00	Beginning to CTH BB	No	None	---	No	ASSUMED >=30
39517.00	39685.00	Beginning to CTH BB	Yes	Guardrail	12.0	Yes	30
39685.00	41090.00	Beginning to CTH BB	No	Curb	---	No	ASSUMED >=30
41090.00	42851.00	Beginning to CTH BB	No	None	---	No	ASSUMED >=30
42851.00	43070.00	Over CTH BB	Yes	Barrier Wall	10.0	Yes	30
43070.00	43386.00	CTH BB to STH 125	Yes	Guardrail	10.0	Yes	30
43386.00	47177.00	CTH BB to STH 125	No	None	---	No	ASSUMED >=30
47177.00	47456.00	CTH BB to STH 125	Yes	Guardrail	10.0	Yes	30
47456.00	48268.00	CTH BB to STH 125	No	None	---	No	ASSUMED >=30
48268.00	48396.00	CTH BB to STH 125	Yes	Barrier Wall	33.0	No	30
48396.00	48501.00	CTH BB to STH 125	Yes	Guardrail	41.0	No	30
48501.00	49409.00	CTH BB to STH 125	No	None	---	No	ASSUMED >=30
49409.00	49633.00	Over STH 125	Yes	Barrier Wall	10.0	Yes	30
49633.00	49954.00	STH 125 to STH 96	Yes	Guardrail	10.0	Yes	30
49954.00	50607.00	STH 125 to STH 96	No	None	---	No	ASSUMED >=30
50607.00	52017.00	STH 125 to STH 96	Yes	Guardrail	26.0	Yes	30
52017.00	52252.00	STH 125 to STH 96	No	None	---	No	ASSUMED >=30
52252.00	52562.00	STH 125 to STH 96	Yes	Guardrail	28.0	Yes	30
52562.00	53110.00	STH 125 to STH 96	No	None	---	No	ASSUMED >=30
53110.00	53518.00	STH 125 to STH 96	Yes	Guardrail	10.0	Yes	30
53518.00	53738.00	Over STH 96	Yes	Barrier Wall	10.0	Yes	30
53738.00	54321.00	STH 96 to STH 15	Yes	Guardrail	10.0	Yes	30
54321.00	54563.00	STH 96 to STH 15	No	None	---	No	ASSUMED >=30
54563.00	55271.00	STH 96 to STH 15	Yes	Guardrail	20.0	Yes	30
55271.00	55504.00	STH 96 to STH 15	Yes	Guardrail	12.0	Yes	30
55504.00	55741.00	STH 96 to STH 15	Yes	Barrier Wall	12.0	Yes	30
55741.00	56062.00	STH 96 to STH 15	Yes	Guardrail	12.0	Yes	30
56062.00	61676.00	Under STH 15	No	None	---	No	ASSUMED >=30
61676.00	61726.00	STH 15 to STH 47	Yes	Barrier Wall	8.0	Yes	30
61726.00	62181.00	STH 15 to STH 47	Yes	Guardrail	9.0	Yes	30
62181.00	68240.00	STH 15 to STH 47	No	None	---	No	ASSUMED >=30
68240.00	69178.00	STH 15 to STH 47	Yes	Guardrail	10.0	Yes	30
69178.00	69328.00	STH 15 to STH 47	Yes	Guardrail	7.0	Yes	30
69328.00	69462.00	STH 15 to STH 47	Yes	Guardrail	4.0	Yes	30
69462.00	69612.00	STH 15 to STH 47	Yes	Guardrail	7.0	Yes	30
69612.00	70566.00	STH 15 to STH 47	Yes	Guardrail	10.0	Yes	30
70566.00	70716.00	STH 15 to STH 47	Yes	Guardrail	7.0	Yes	30
70716.00	70824.00	STH 15 to STH 47	Yes	Guardrail	4.0	Yes	30
70824.00	70974.00	STH 15 to STH 47	Yes	Guardrail	7.0	Yes	30
70974.00	71468.00	STH 15 to STH 47	Yes	Guardrail	10.0	Yes	30
71468.00	74734.00	STH 15 to STH 47	No	None	---	No	ASSUMED >=30
74734.00	74842.00	Under STH 47	Yes	Barrier Wall	10.0	Yes	30
74842.00	75224.00	STH 47 to CTH E	Yes	Guardrail	10.0	Yes	30
75224.00	76515.00	STH 47 to CTH E	No	None	---	No	ASSUMED >=30

I-41 IHSDM Analysis: Outside Barrier and Clear Zone Summary

EXISTING CONDITIONS

March 19, 2019 (Draft)

Decreasing Stations: I-41 SB (Left)

Stationing			Outside Barrier				Clear Zone
Start	*End*	*Approximate Location*	Present?	Type?	Offset (ft)	Part of Freeway? If >30', then no.	Distance (feet)
76515.00	76694.00	STH 47 to CTH E	Yes	Guardrail	22.0	Yes	30
76694.00	82738.00	STH 47 to CTH E	No	None	---	No	ASSUMED >=30
82738.00	83030.00	STH 47 to CTH E	Yes	Guardrail	10.0	Yes	30
83030.00	86616.00	Under CTH E	No	None	---	No	ASSUMED >=30
86616.00	86795.00	CTH E to STH 441	Yes	Guardrail	22.0	Yes	30
86795.00	88320.00	CTH E to STH 441	No	None	---	No	ASSUMED >=30
88320.00	88499.00	CTH E to STH 441	Yes	Guardrail	23.5	Yes	30
88499.00	92886.00	Under STH 441	No	None	---	No	ASSUMED >=30
92886.00	93177.00	STH 441 to CTH N	Yes	Guardrail	11.0	Yes	30
93177.00	96299.00	STH 441 to CTH N	No	None	---	No	ASSUMED >=30
96299.00	96349.00	STH 441 to CTH N	Yes	Barrier Wall	10.0	Yes	30
96349.00	97156.00	STH 441 to CTH N	Yes	Guardrail	10.0	Yes	30
97156.00	98944.00	STH 441 to CTH N	No	None	---	No	ASSUMED >=30
98944.00	98993.00	STH 441 to CTH N	Yes	Barrier Wall	10.0	Yes	30
98993.00	99276.00	STH 441 to CTH N	Yes	Guardrail	10.0	Yes	30
99276.00	99860.00	STH 441 to CTH N	No	None	---	No	ASSUMED >=30
99860.00	100151.00	STH 441 to CTH N	Yes	Guardrail	11.0	Yes	30
100151.00	104224.00	Under CTH N	No	None	---	No	ASSUMED >=30
104224.00	104274.00	CTH N to STH 55	Yes	Barrier Wall	10.0	Yes	30
104274.00	104544.00	CTH N to STH 55	Yes	Guardrail	10.0	Yes	30
104544.00	108149.00	CTH N to STH 55	No	None	---	No	ASSUMED >=30
108149.00	108197.00	CTH N to STH 55	Yes	Barrier Wall	10.0	Yes	30
108197.00	108493.00	CTH N to STH 55	Yes	Guardrail	10.0	Yes	30
108493.00	112276.00	CTH N to STH 55	No	None	---	No	ASSUMED >=30
112276.00	112391.00	Under STH 55	Yes	Barrier Wall	10.0	Yes	30
112391.00	112849.00	CTH 55 to CTH J	Yes	Guardrail	10.0	Yes	30
112849.00	113169.00	CTH 55 to CTH J	No	None	---	No	ASSUMED >=30
113169.00	113524.00	CTH 55 to CTH J	Yes	Guardrail	20.0	Yes	30
113524.00	113630.00	CTH 55 to CTH J	Yes	Barrier Wall	10.0	Yes	30
113630.00	114549.00	CTH 55 to CTH J	Yes	Guardrail	10.0	Yes	30
114549.00	117241.00	CTH 55 to CTH J	No	None	---	No	ASSUMED >=30
117241.00	117381.00	CTH 55 to CTH J	Yes	Guardrail	11.5	Yes	30
117381.00	118735.00	CTH 55 to CTH J	No	None	---	No	ASSUMED >=30
118735.00	118819.00	Under CTH J	Yes	Barrier Wall	10.0	Yes	30
118819.00	119214.00	CTH J to CTH U	Yes	Guardrail	10.0	Yes	30
119214.00	124463.00	CTH J to CTH U	No	None	---	No	ASSUMED >=30
124463.00	124995.00	CTH J to CTH U	Yes	Guardrail	10.0	Yes	30
124995.00	125140.00	CTH J to CTH U	Yes	Barrier Wall	10.0	Yes	30
125140.00	125395.00	CTH J to CTH U	Yes	Guardrail	10.0	Yes	30
125395.00	132105.00	CTH J to CTH U	No	None	---	No	ASSUMED >=30
132105.00	132261.00	CTH J to CTH U	Yes	Barrier Wall	10.0	Yes	30
132261.00	132516.00	CTH J to CTH U	Yes	Guardrail	10.0	Yes	30
132516.00	141012.00	CTH J to CTH U	No	None	---	No	ASSUMED >=30
141012.00	141295.00	Over CTH U	Yes	Barrier Wall	10.0	Yes	30

I-41 IHSDM Analysis: Outside Barrier and Clear Zone Summary

EXISTING CONDITIONS

March 19, 2019 (Draft)

Decreasing Stations: I-41 SB (Left)

Stationing			Outside Barrier				Clear Zone
Start	*End*	*Approximate Location*	Present?	Type?	Offset (ft)	Part of Freeway? If >30', then no.	Distance (feet)
141295.00	141987.00	CTH U to CTH S	Yes	Guardrail	10.0	Yes	30
141987.00	143561.00	CTH U to CTH S	No	None	---	No	ASSUMED >=30
143561.00	143708.00	CTH U to CTH S	Yes	Barrier Wall	10.0	Yes	30
143708.00	143963.00	CTH U to CTH S	Yes	Guardrail	10.0	Yes	30
143963.00	148437.00	CTH U to CTH S	No	None	---	No	ASSUMED >=30
148437.00	151240.00	CTH U to CTH S	Yes	Guardrail	10.0	Yes	30
151240.00	161211.00	Under CTH S	No	None	---	No	ASSUMED >=30
161211.00	161339.00	CTH S to End	Yes	Barrier Wall	10.0	Yes	30
161339.00	161593.00	CTH S to End	Yes	Guardrail	10.0	Yes	30

Increasing Stations: I-41 NB (Right)

Stationing			Outside Barrier				Clear Zone
Start	*End*	*Approximate Location*	Present?	Type?	Offset (ft)	Part of Freeway? If >30', then no.	Distance (feet)
39200.00	39493.00	Beginning to CTH BB	No	None	---	No	ASSUMED >=30
39493.00	39661.00	Beginning to CTH BB	Yes	Guardrail	10.0	Yes	30
39661.00	40471.00	Beginning to CTH BB	No	None	---	No	ASSUMED >=30
40471.00	40791.00	Beginning to CTH BB	Yes	Guardrail	10.0	Yes	30
40791.00	40891.00	Beginning to CTH BB	Yes	Barrier Wall	10.0	Yes	30
40891.00	41191.00	Beginning to CTH BB	Yes	Barrier Wall	16.0	Yes	30
41191.00	41855.00	Beginning to CTH BB	Yes	Barrier Wall	22.0	Yes	30
41855.00	41912.00	Beginning to CTH BB	Yes	Barrier Wall	26.0	Yes	30
41912.00	42495.00	Beginning to CTH BB	No	None	---	No	ASSUMED >=30
42495.00	42817.00	Beginning to CTH BB	Yes	Guardrail	10.0	Yes	30
42817.00	43030.00	Over CTH BB	Yes	Barrier Wall	10.0	Yes	30
43030.00	44269.00	CTH BB to STH 125	No	None	---	No	ASSUMED >=30
44269.00	44595.00	CTH BB to STH 125	Yes	Guardrail	27.0	Yes	30
44595.00	45255.00	CTH BB to STH 125	Yes	Barrier Wall	18.0	Yes	30
45255.00	47592.00	CTH BB to STH 125	Yes	Barrier Wall	12.0	Yes	30
47592.00	47949.00	CTH BB to STH 125	No	None	---	No	ASSUMED >=30
47949.00	48270.00	CTH BB to STH 125	Yes	Guardrail	17.5	Yes	30
48270.00	48398.00	CTH BB to STH 125	Yes	Barrier Wall	22.5	Yes	30
48398.00	48443.00	CTH BB to STH 125	Yes	Guardrail	27.5	Yes	30
48443.00	49085.00	CTH BB to STH 125	No	None	---	No	ASSUMED >=30
49085.00	49406.00	CTH BB to STH 125	Yes	Guardrail	10.0	Yes	30
49406.00	49628.00	Over STH 125	Yes	Barrier Wall	10.0	Yes	30
49628.00	49999.00	STH 125 to STH 96	Yes	Guardrail	10.0	Yes	30
49999.00	51059.00	STH 125 to STH 96	No	None	---	No	ASSUMED >=30
51059.00	51871.00	STH 125 to STH 96	Yes	Guardrail	24.0	Yes	30
51871.00	52100.00	STH 125 to STH 96	Yes	Guardrail	27.0	Yes	30
52100.00	52834.00	STH 125 to STH 96	No	None	---	No	ASSUMED >=30
52834.00	53517.00	STH 125 to STH 96	Yes	Guardrail	10.0	Yes	30
53517.00	53738.00	Over STH 96	Yes	Barrier Wall	10.0	Yes	30
53738.00	54396.00	STH 96 to STH 15	Yes	Guardrail	10.0	Yes	30
54396.00	54866.00	STH 96 to STH 15	No	None	---	No	ASSUMED >=30
54866.00	55380.00	STH 96 to STH 15	Yes	Guardrail	21.0	Yes	30
55380.00	55616.00	STH 96 to STH 15	Yes	Barrier Wall	12.0	Yes	30
55616.00	56849.00	STH 96 to STH 15	Yes	Guardrail	12.0	Yes	30
56849.00	61347.00	Under STH 15	No	None	---	No	ASSUMED >=30
61347.00	61774.00	STH 15 to STH 47	Yes	Guardrail	9.0	Yes	30
61774.00	61824.00	STH 15 to STH 47	Yes	Barrier Wall	8.0	Yes	30
61824.00	68336.00	STH 15 to STH 47	No	None	---	No	ASSUMED >=30
68336.00	69179.00	STH 15 to STH 47	Yes	Guardrail	10.0	Yes	30
69179.00	69329.00	STH 15 to STH 47	Yes	Guardrail	7.0	Yes	30
69329.00	69463.00	STH 15 to STH 47	Yes	Guardrail	4.0	Yes	30
69463.00	69613.00	STH 15 to STH 47	Yes	Guardrail	7.0	Yes	30
69613.00	70567.00	STH 15 to STH 47	Yes	Guardrail	10.0	Yes	30
70567.00	70717.00	STH 15 to STH 47	Yes	Guardrail	7.0	Yes	30

Increasing Stations: I-41 NB (Right)

Stationing			Outside Barrier				Clear Zone
Start	*End*	*Approximate Location*	Present?	Type?	Offset (ft)	Part of Freeway? If >30', then no.	Distance (feet)
70717.00	70824.00	STH 15 to STH 47	Yes	Guardrail	4.0	Yes	30
70824.00	70974.00	STH 15 to STH 47	Yes	Guardrail	7.0	Yes	30
70974.00	71364.00	STH 15 to STH 47	Yes	Guardrail	10.0	Yes	30
71364.00	72989.00	STH 15 to STH 47	No	None	---	No	ASSUMED >=30
72989.00	73167.00	STH 15 to STH 47	Yes	Guardrail	22.0	Yes	30
73167.00	74357.00	STH 15 to STH 47	No	None	---	No	ASSUMED >=30
74357.00	74724.00	STH 15 to STH 47	Yes	Guardrail	10.0	Yes	30
74724.00	74834.00	Under STH 47	Yes	Barrier Wall	10.0	Yes	30
74834.00	82489.00	STH 47 to CTH E	No	None	---	No	ASSUMED >=30
82489.00	82779.00	STH 47 to CTH E	Yes	Guardrail	10.0	Yes	30
82779.00	86531.00	Under CTH E	No	None	---	No	ASSUMED >=30
86531.00	86734.00	CTH E to STH 441	Yes	Guardrail	22.0	Yes	30
86734.00	88654.00	CTH E to STH 441	No	None	---	No	ASSUMED >=30
88654.00	88831.00	CTH E to STH 441	Yes	Guardrail	22.0	Yes	30
88831.00	92652.00	Under STH 441	No	None	---	No	ASSUMED >=30
92652.00	92943.00	STH 441 to CTH N	Yes	Guardrail	10.0	Yes	30
92943.00	95998.00	STH 441 to CTH N	No	None	---	No	ASSUMED >=30
95998.00	96294.00	STH 441 to CTH N	Yes	Guardrail	10.0	Yes	30
96294.00	96343.00	STH 441 to CTH N	Yes	Barrier Wall	10.0	Yes	30
96343.00	96662.00	STH 441 to CTH N	No	None	---	No	ASSUMED >=30
96662.00	96953.00	STH 441 to CTH N	Yes	Guardrail	10.0	Yes	30
96953.00	98643.00	STH 441 to CTH N	No	None	---	No	ASSUMED >=30
98643.00	98938.00	STH 441 to CTH N	Yes	Guardrail	10.0	Yes	30
98938.00	98988.00	STH 441 to CTH N	Yes	Barrier Wall	10.0	Yes	30
98988.00	99606.00	STH 441 to CTH N	No	None	---	No	ASSUMED >=30
99606.00	99898.00	STH 441 to CTH N	Yes	Guardrail	10.0	Yes	30
99898.00	103924.00	Under CTH N	No	None	---	No	ASSUMED >=30
103924.00	104219.00	CTH N to STH 55	Yes	Guardrail	10.0	Yes	30
104219.00	104270.00	CTH N to STH 55	Yes	Barrier Wall	10.0	Yes	30
104270.00	107849.00	CTH N to STH 55	No	None	---	No	ASSUMED >=30
107849.00	108144.00	CTH N to STH 55	Yes	Guardrail	10.0	Yes	30
108144.00	108196.00	CTH N to STH 55	Yes	Barrier Wall	10.0	Yes	30
108196.00	111928.00	CTH N to STH 55	No	None	---	No	ASSUMED >=30
111928.00	112320.00	CTH N to STH 55	Yes	Guardrail	10.0	Yes	30
112320.00	112439.00	Over STH 55	Yes	Barrier Wall	10.0	Yes	30
112439.00	112982.00	STH 55 to CTH J	Yes	Guardrail	10.0	Yes	30
112982.00	113384.00	STH 55 to CTH J	No	None	---	No	ASSUMED >=30
113384.00	113467.00	STH 55 to CTH J	Yes	Guardrail	28.0	Yes	30
113467.00	113581.00	STH 55 to CTH J	Yes	Barrier Wall	24.0	Yes	30
113581.00	114221.00	STH 55 to CTH J	Yes	Guardrail	16.0	Yes	30
114221.00	117043.00	STH 55 to CTH J	No	None	---	No	ASSUMED >=30
117043.00	117183.00	STH 55 to CTH J	Yes	Guardrail	10.0	Yes	30
117183.00	118286.00	STH 55 to CTH J	No	None	---	No	ASSUMED >=30
118286.00	118655.00	STH 55 to CTH J	Yes	Guardrail	10.0	Yes	30

I-41 IHSDM Analysis: Outside Barrier and Clear Zone Summary

EXISTING CONDITIONS

March 19, 2019 (Draft)

Increasing Stations: I-41 NB (Right)

Stationing			Outside Barrier				Clear Zone
Start	*End*	*Approximate Location*	Present?	Type?	Offset (ft)	Part of Freeway? If >30', then no.	Distance (feet)
118655.00	118736.00	Under CTH J	Yes	Barrier Wall	10.0	Yes	30
118736.00	124767.00	CTH J to CTH U	No	None	---	No	ASSUMED >=30
124767.00	125024.00	CTH J to CTH U	Yes	Guardrail	10.0	Yes	30
125024.00	125171.00	CTH J to CTH U	Yes	Barrier Wall	10.0	Yes	30
125171.00	131921.00	CTH J to CTH U	No	None	---	No	ASSUMED >=30
131921.00	132175.00	CTH J to CTH U	Yes	Guardrail	10.0	Yes	30
132175.00	132331.00	CTH J to CTH U	Yes	Barrier Wall	10.0	Yes	30
132331.00	138371.00	CTH J to CTH U	No	None	---	No	ASSUMED >=30
138371.00	138542.00	CTH J to CTH U	Yes	Guardrail	22.0	Yes	30
138542.00	139308.00	CTH J to CTH U	No	None	---	No	ASSUMED >=30
139308.00	139455.00	CTH J to CTH U	Yes	Guardrail	22.0	Yes	30
139455.00	140293.00	CTH J to CTH U	No	None	---	No	ASSUMED >=30
140293.00	140885.00	CTH J to CTH U	Yes	Guardrail	16.0	Yes	30
140885.00	141162.00	Over CTH U	Yes	Barrier Wall	10.0	Yes	30
141162.00	143303.00	CTH U to CTH S	No	None	---	No	ASSUMED >=30
143303.00	143558.00	CTH U to CTH S	Yes	Guardrail	10.0	Yes	30
143558.00	143726.00	CTH U to CTH S	Yes	Barrier Wall	10.0	Yes	30
143726.00	147646.00	CTH U to CTH S	No	None	---	No	ASSUMED >=30
147646.00	147730.00	CTH U to CTH S	Yes	Guardrail	10.0	Yes	30
147730.00	149257.00	CTH U to CTH S	Yes	Barrier Wall	10.0	Yes	30
149257.00	160956.00	Under CTH S	No	None	---	No	ASSUMED >=30
160956.00	161207.00	CTH S to End	Yes	Guardrail	8.0	Yes	30
161207.00	161335.00	CTH S to End	Yes	Barrier Wall	8.0	Yes	30
161335.00	161857.00	CTH S to End	Yes	Guardrail	8.0	Yes	30

Decreasing Stations: I-41 SB (Left)

Stationing			Input
Start	*End*	*Side of Road*	*Offset (ft)*
39517.00	39685.00	Left	12.0
42851.00	43070.00	Left	10.0
43070.00	43386.00	Left	10.0
47177.00	47456.00	Left	10.0
49409.00	49633.00	Left	10.0
49633.00	49954.00	Left	10.0
50607.00	52017.00	Left	26.0
52252.00	52562.00	Left	28.0
53110.00	53518.00	Left	10.0
53518.00	53738.00	Left	10.0
53738.00	54321.00	Left	10.0
54563.00	55271.00	Left	20.0
55271.00	55504.00	Left	12.0
55504.00	55741.00	Left	12.0
55741.00	56062.00	Left	12.0
61676.00	61726.00	Left	10.0
61726.00	62181.00	Left	10.0
68240.00	69178.00	Left	10.0
69178.00	69328.00	Left	7.0
69328.00	69462.00	Left	4.0
69462.00	69612.00	Left	7.0
69612.00	70566.00	Left	10.0
70566.00	70716.00	Left	7.0
70716.00	70824.00	Left	4.0
70824.00	70974.00	Left	7.0
70974.00	71468.00	Left	10.0
74734.00	74842.00	Left	10.0
74842.00	75224.00	Left	10.0
76515.00	76694.00	Left	22.0
82738.00	83030.00	Left	10.0

Increasing Stations: I-41 NB (Right)

Stationing			Input
Start	*End*	*Side of Road*	*Offset (ft)*
39493.00	39661.00	Right	10.0
40471.00	40791.00	Right	10.0
40791.00	40891.00	Right	10.0
40891.00	41191.00	Right	16.0
41191.00	41855.00	Right	22.0
41855.00	41912.00	Right	26.0
42495.00	42817.00	Right	10.0
42817.00	43030.00	Right	10.0
44269.00	44595.00	Right	27.0
44595.00	45255.00	Right	18.0
45255.00	47592.00	Right	12.0
47949.00	48270.00	Right	17.5
48270.00	48398.00	Right	22.5
48398.00	48443.00	Right	27.5
49085.00	49406.00	Right	10.0
49406.00	49628.00	Right	10.0
49628.00	49999.00	Right	10.0
51059.00	51871.00	Right	24.0
51871.00	52100.00	Right	27.0
52834.00	53517.00	Right	10.0
53517.00	53738.00	Right	10.0
53738.00	54396.00	Right	10.0
54866.00	55380.00	Right	21.0
55380.00	55616.00	Right	12.0
55616.00	56849.00	Right	12.0
61347.00	61774.00	Right	9.0
61774.00	61824.00	Right	9.0
68336.00	69179.00	Right	10.0
69179.00	69329.00	Right	7.0
69329.00	69463.00	Right	4.0

Decreasing Stations: I-41 SB (Left)

Stationing			Input
Start	*End*	*Side of Road*	*Offset (ft)*
86616.00	86795.00	Left	22.0
88320.00	88499.00	Left	23.5
92886.00	93177.00	Left	11.0
96299.00	96349.00	Left	10.0
96349.00	97156.00	Left	10.0
98944.00	98993.00	Left	10.0
98993.00	99276.00	Left	10.0
99860.00	100151.00	Left	11.0
104224.00	104274.00	Left	10.0
104274.00	104544.00	Left	10.0
108149.00	108197.00	Left	10.0
108197.00	108493.00	Left	10.0
112276.00	112391.00	Left	10.0
112391.00	112849.00	Left	10.0
113169.00	113524.00	Left	20.0
113524.00	113630.00	Left	10.0
113630.00	114549.00	Left	10.0
117241.00	117381.00	Left	11.5
118735.00	118819.00	Left	10.0
118819.00	119214.00	Left	10.0
124463.00	124995.00	Left	10.0
124995.00	125140.00	Left	10.0
125140.00	125395.00	Left	10.0
132105.00	132261.00	Left	10.0
132261.00	132516.00	Left	10.0
141012.00	141295.00	Left	10.0
141295.00	141987.00	Left	10.0
143561.00	143708.00	Left	10.0
143708.00	143963.00	Left	10.0
148437.00	151240.00	Left	10.0

Increasing Stations: I-41 NB (Right)

Stationing			Input
Start	*End*	*Side of Road*	*Offset (ft)*
69463.00	69613.00	Right	7.0
69613.00	70567.00	Right	10.0
70567.00	70717.00	Right	7.0
70717.00	70824.00	Right	4.0
70824.00	70974.00	Right	7.0
70974.00	71364.00	Right	10.0
72989.00	73167.00	Right	22.0
74357.00	74724.00	Right	10.0
74724.00	74834.00	Right	10.0
82489.00	82779.00	Right	10.0
86531.00	86734.00	Right	22.0
88654.00	88831.00	Right	22.0
92652.00	92943.00	Right	10.0
95998.00	96294.00	Right	10.0
96294.00	96343.00	Right	10.0
96662.00	96953.00	Right	10.0
98643.00	98938.00	Right	10.0
98938.00	98988.00	Right	10.0
99606.00	99898.00	Right	10.0
103924.00	104219.00	Right	10.0
104219.00	104270.00	Right	10.0
107849.00	108144.00	Right	10.0
108144.00	108196.00	Right	10.0
111928.00	112320.00	Right	10.0
112320.00	112439.00	Right	10.0
112439.00	112982.00	Right	10.0
113384.00	113467.00	Right	28.0
113467.00	113581.00	Right	24.0
113581.00	114221.00	Right	16.0
117043.00	117183.00	Right	10.0

Decreasing Stations: I-41 SB (Left)

Stationing			Input
Start	*End*	*Side of Road*	*Offset (ft)*
161211.00	161339.00	Left	10.0
161339.00	161593.00	Left	10.0

Increasing Stations: I-41 NB (Right)

Stationing			Input
Start	*End*	*Side of Road*	*Offset (ft)*
118286.00	118655.00	Right	10.0
118655.00	118736.00	Right	10.0
124767.00	125024.00	Right	10.0
125024.00	125171.00	Right	10.0
131921.00	132175.00	Right	10.0
132175.00	132331.00	Right	10.0
138371.00	138542.00	Right	22.0
139308.00	139455.00	Right	22.0
140293.00	140885.00	Right	16.0
140885.00	141162.00	Right	10.0
143303.00	143558.00	Right	10.0
143558.00	143726.00	Right	10.0
147646.00	147730.00	Right	10.0
147730.00	149257.00	Right	10.0
160956.00	161207.00	Right	8.0
161207.00	161335.00	Right	8.0
161335.00	161857.00	Right	8.0

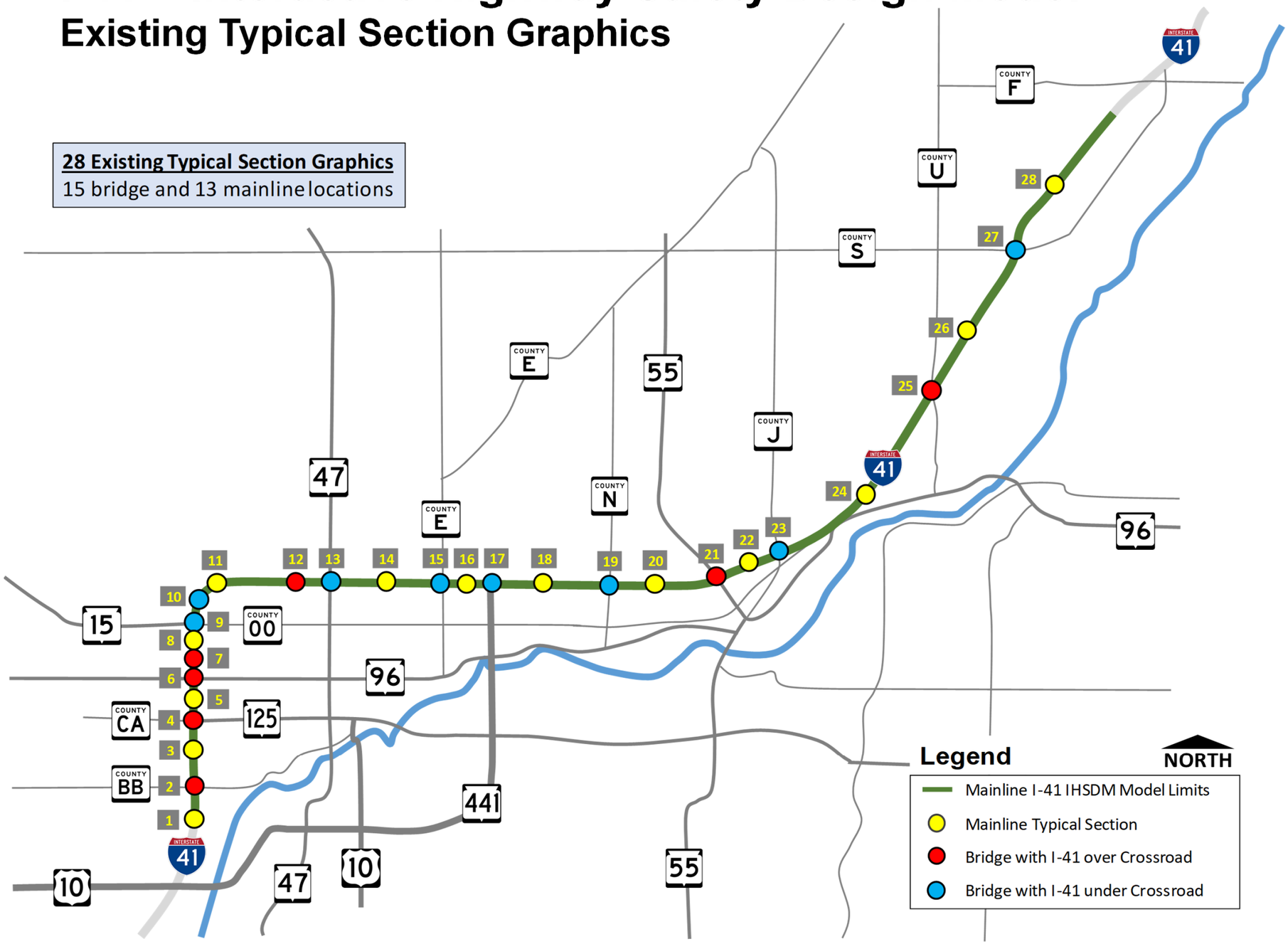
ATTACHMENT C
EXISTING CONDITIONS TYPICAL SECTIONS

I-41 – Interactive Highway Safety Design Model

Existing Typical Section Graphics

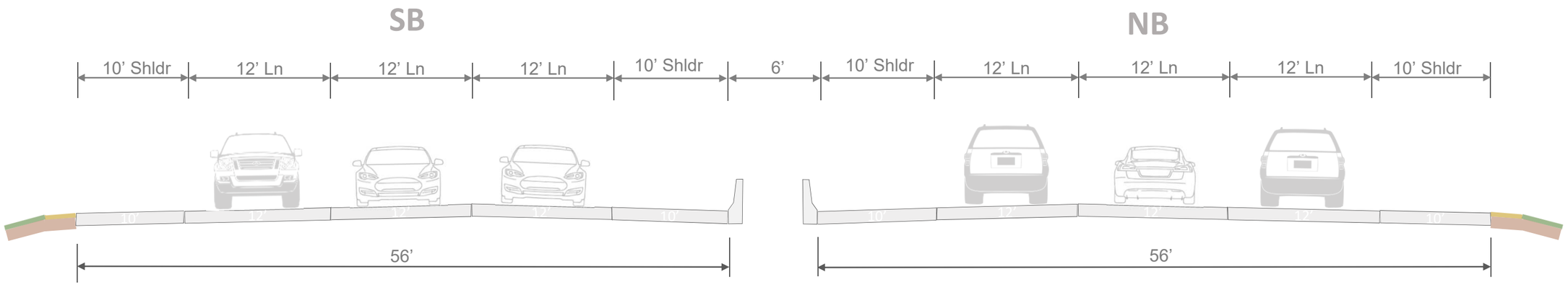
March 2019
(Draft)

28 Existing Typical Section Graphics
15 bridge and 13 mainline locations



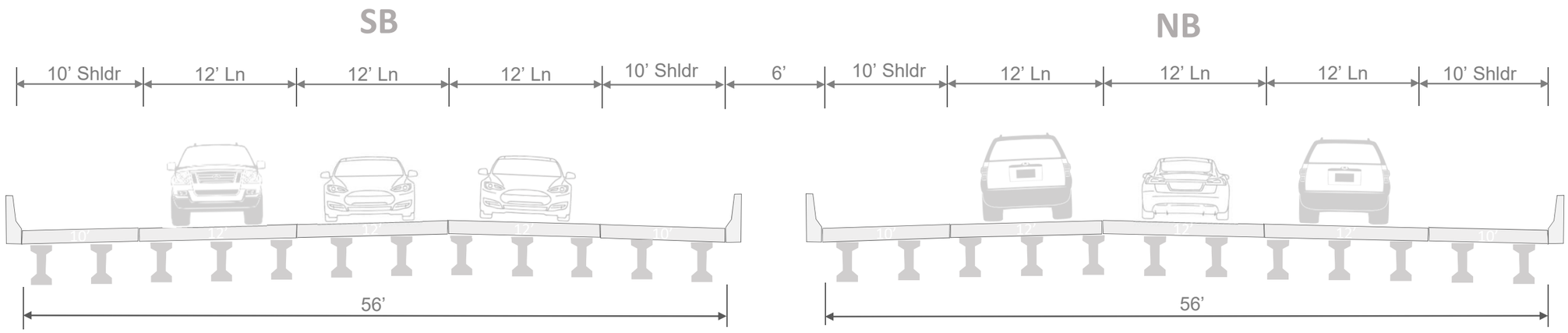
South of CTH BB

Existing I-41 Cross Section



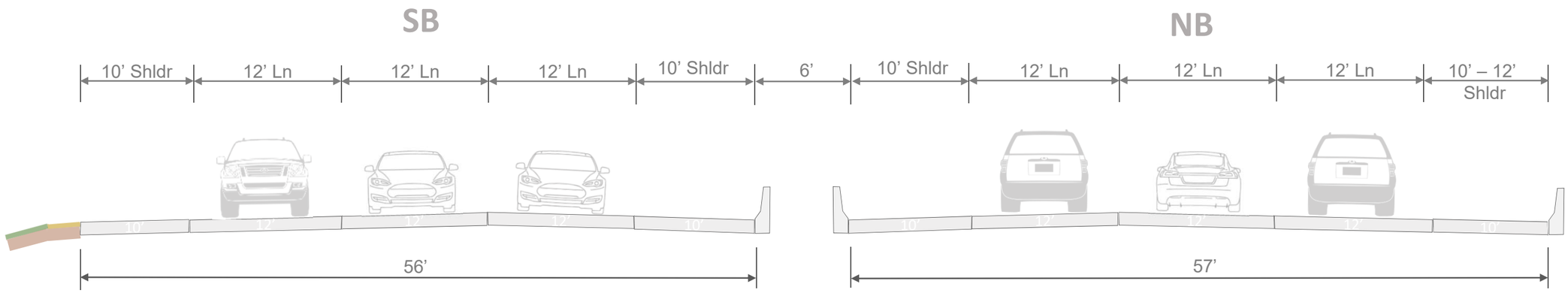
CTH BB Bridge

Existing I-41 Cross Section



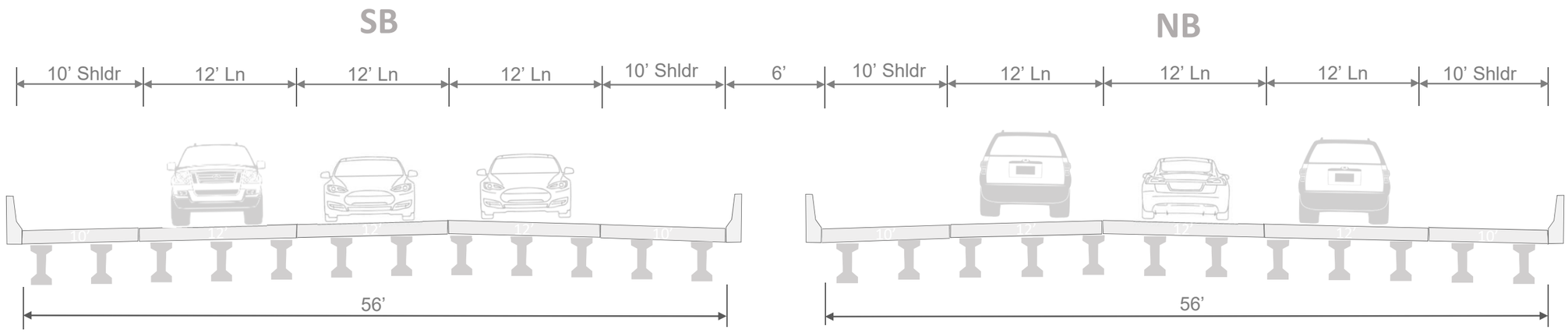
CTH BB to STH 125

Existing I-41 Cross Section



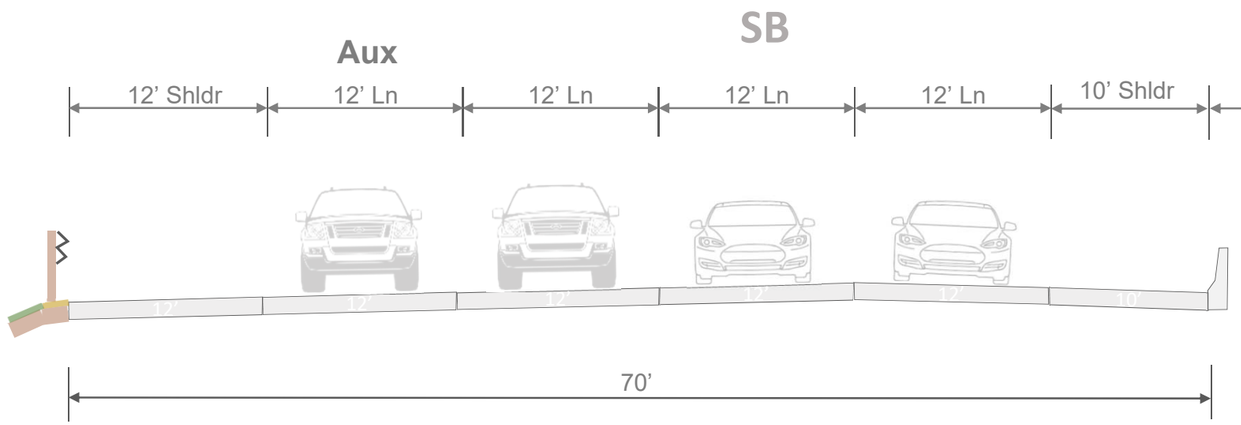
STH 125 Bridge

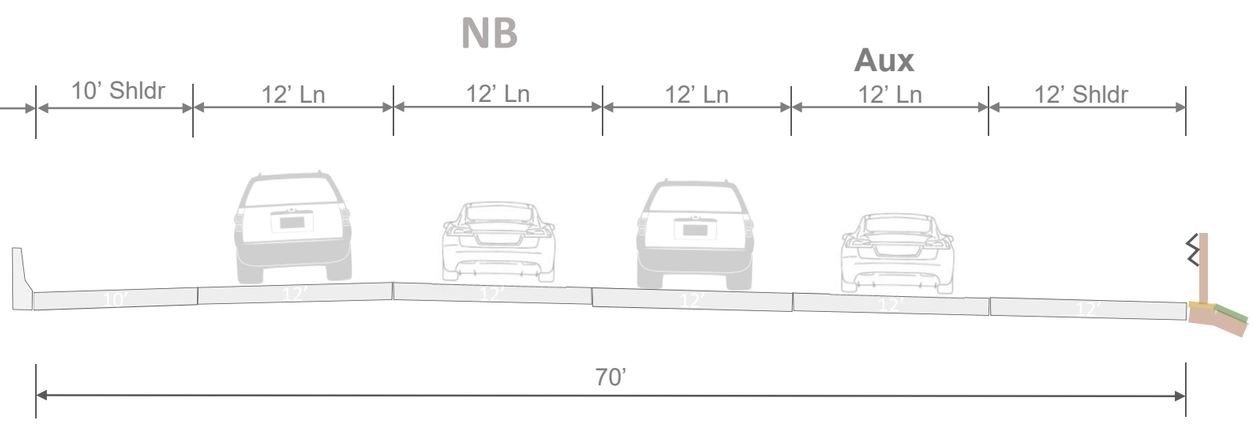
Existing I-41 Cross Section



STH 125 to STH 96

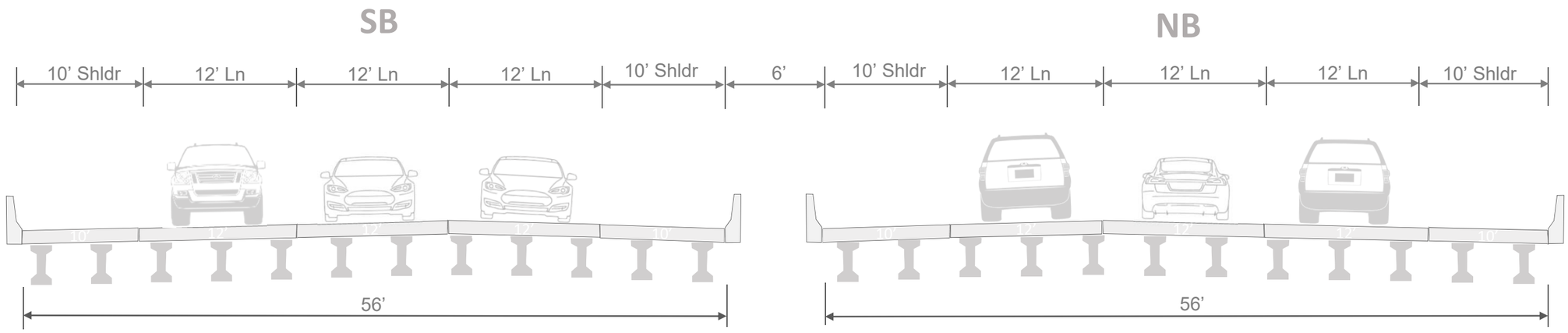
Existing I-41 Cross Section





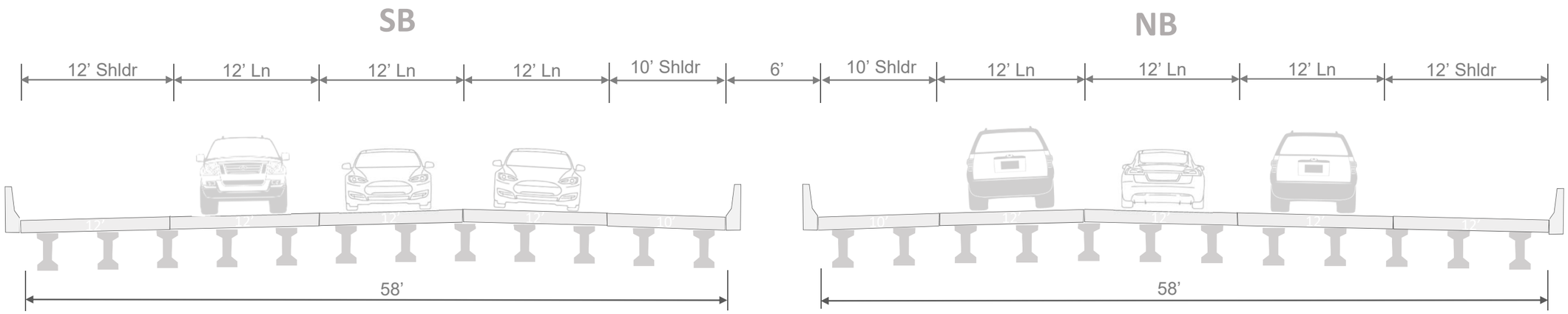
STH 96 Bridge

Existing I-41 Cross Section



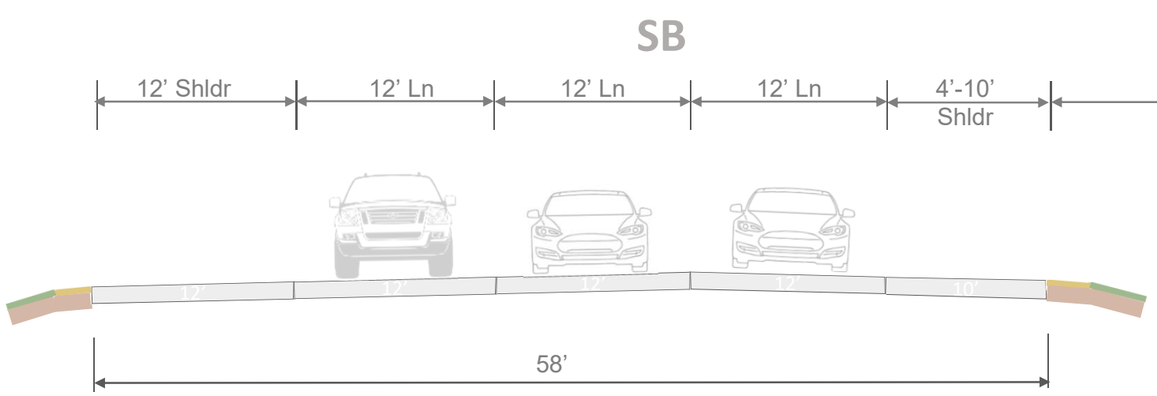
RR Bridge

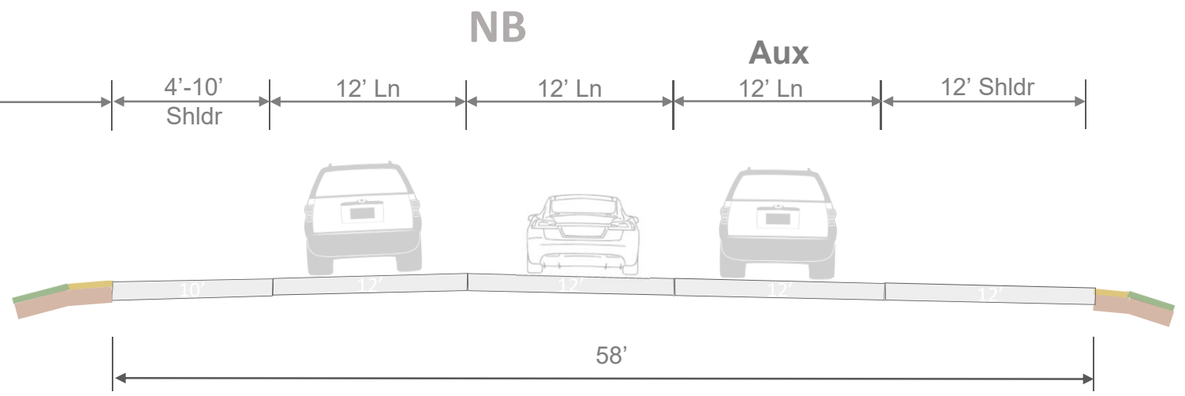
Existing I-41 Cross Section



STH 96 to STH 15

Existing I-41 Cross Section

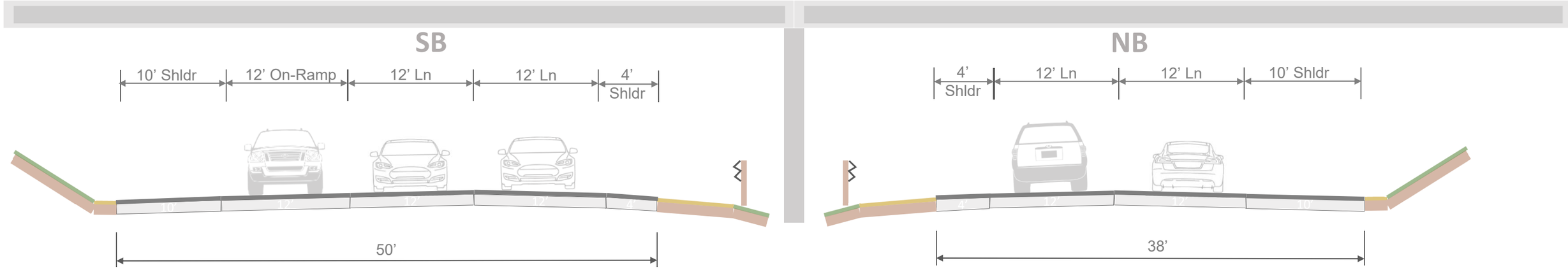




Note: Median width portion of drawing is not to scale

STH 15 Bridge

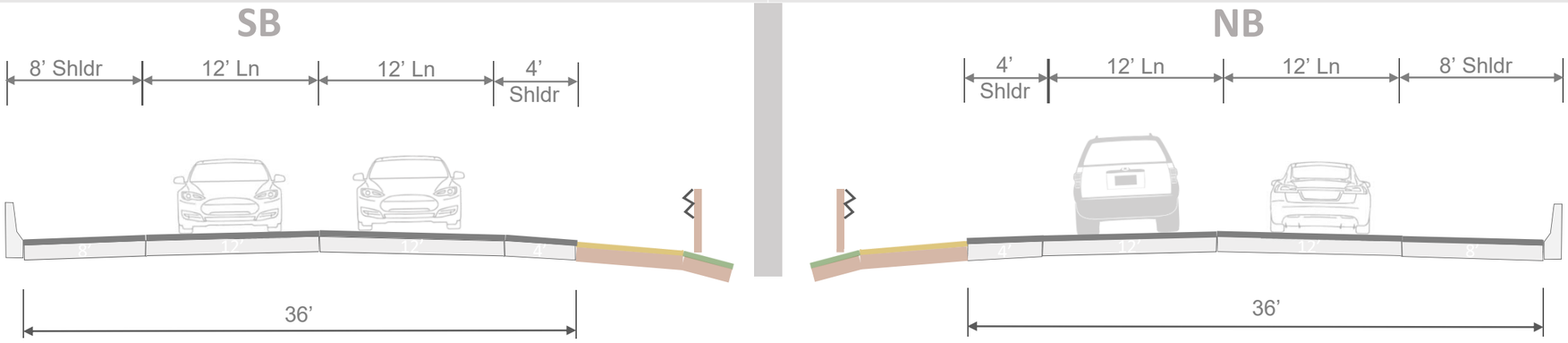
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

Capitol Drive Bridge

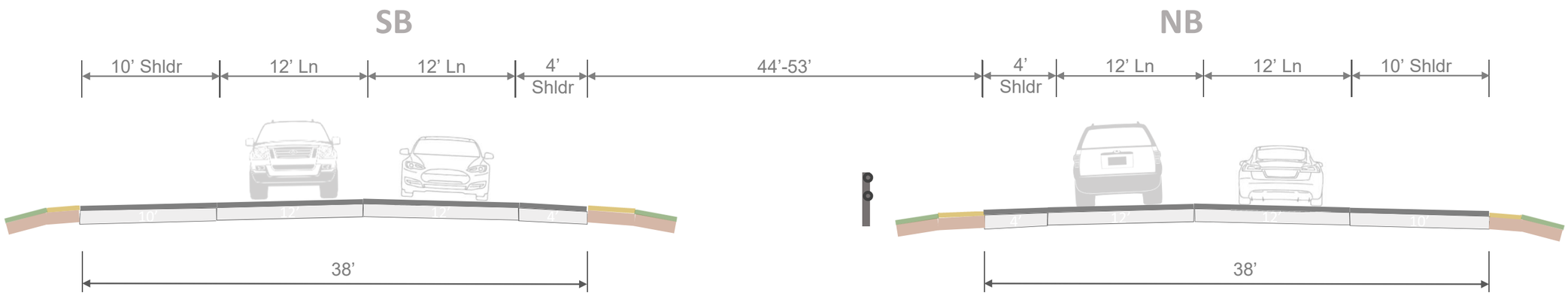
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

STH 15 to STH 47

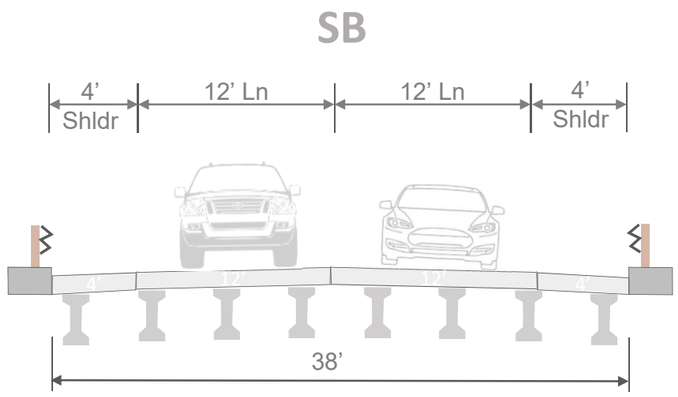
Existing I-41 Cross Section

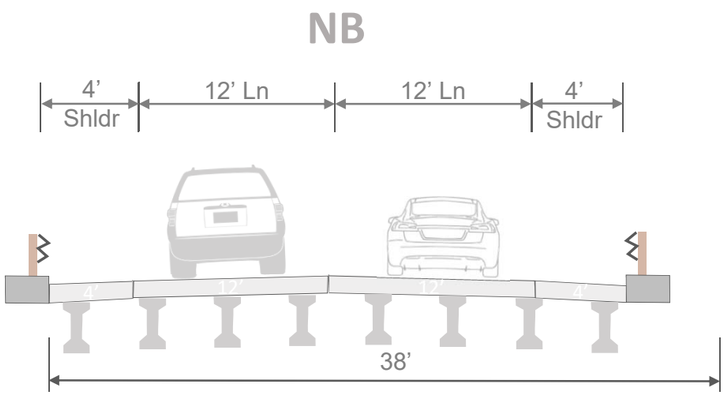


Note: Median width portion of drawing is not to scale

RR Bridge & Gillett St Bridge

Existing I-41 Cross Section

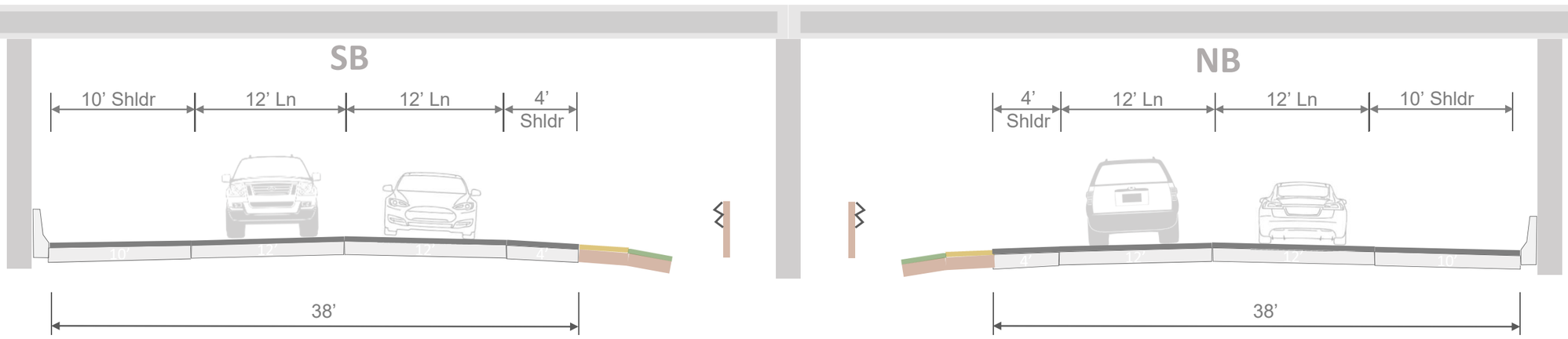




Note: Median width portion of drawing is not to scale

STH 47 Bridge

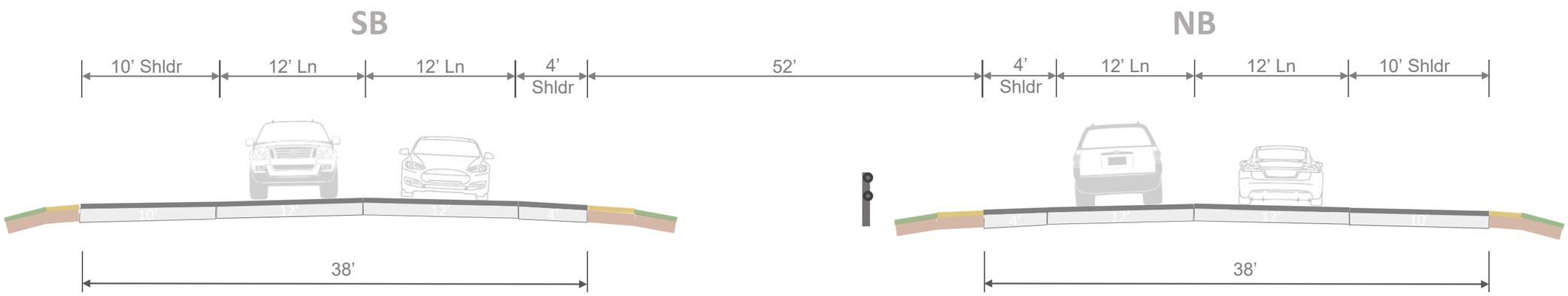
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

STH 47 to CTH E

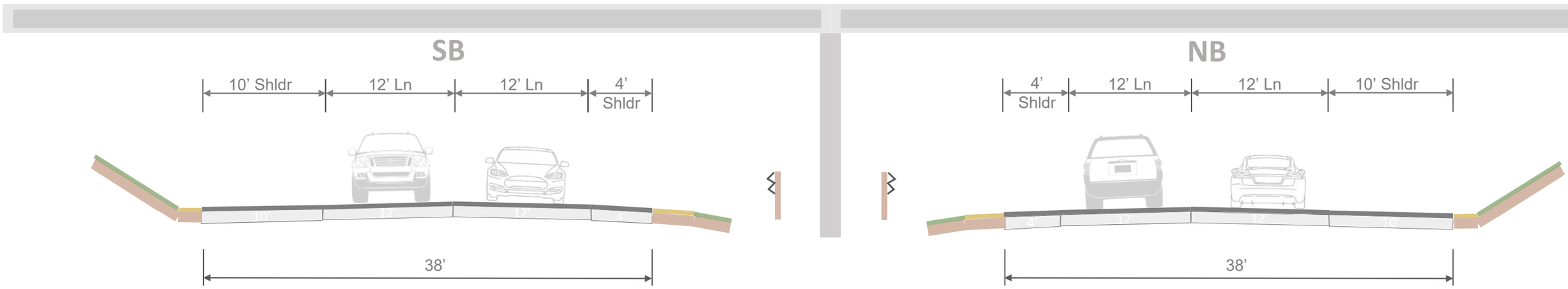
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

CTH E Bridge

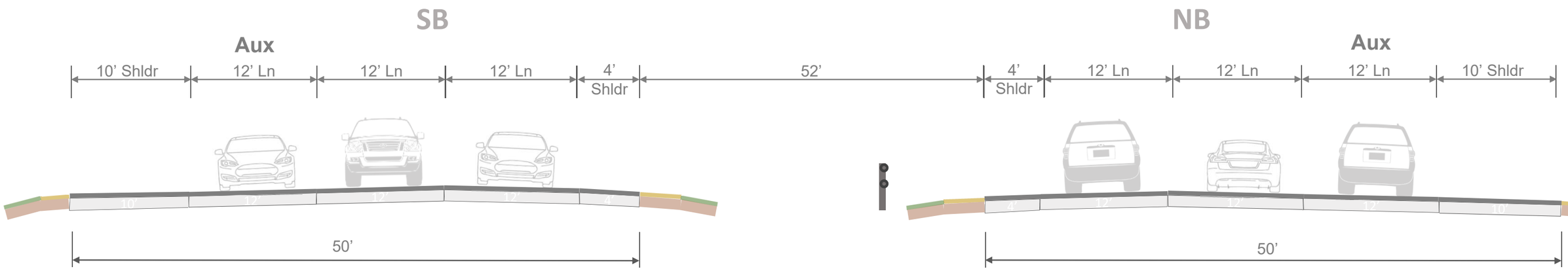
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

CTH E to STH 441

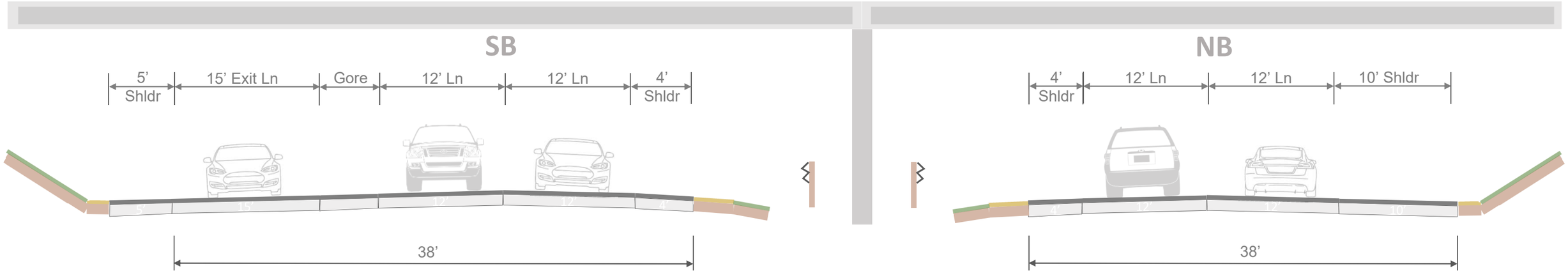
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

STH 441 Bridge

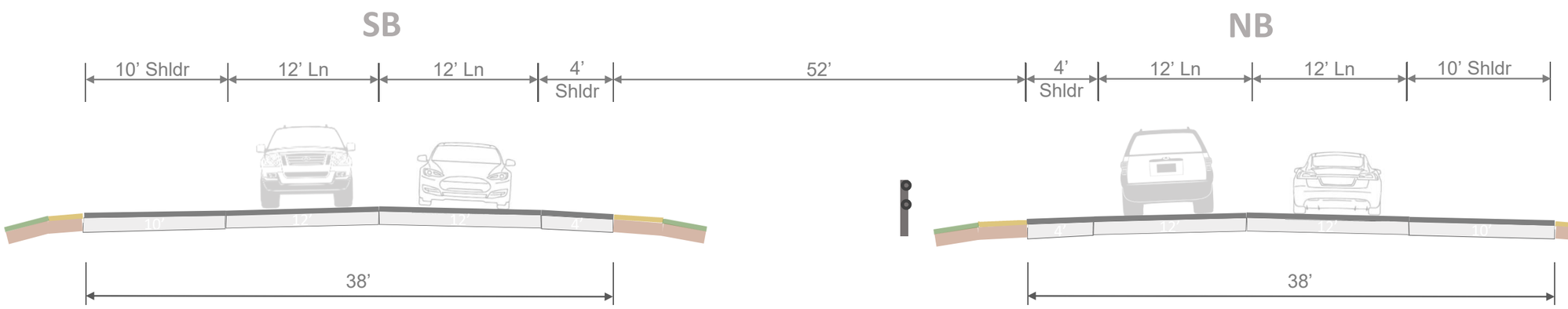
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

STH 441 to CTH N

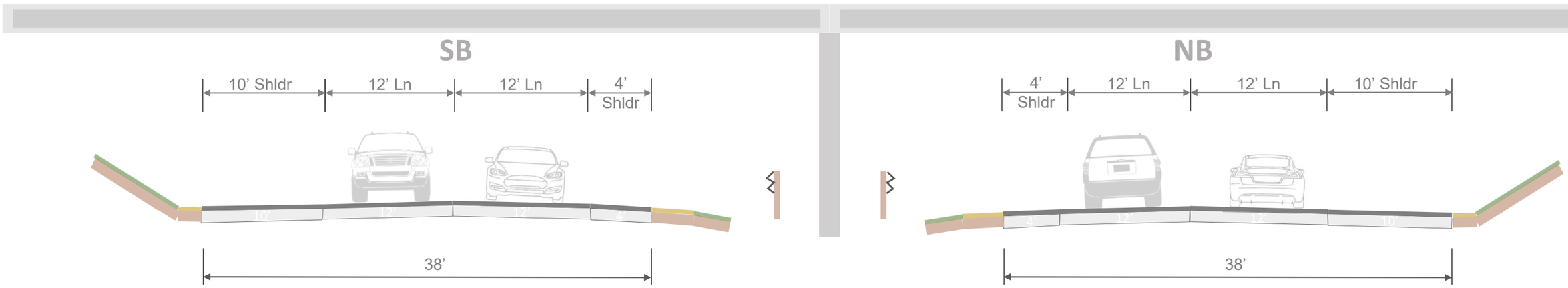
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

CTH N Bridge

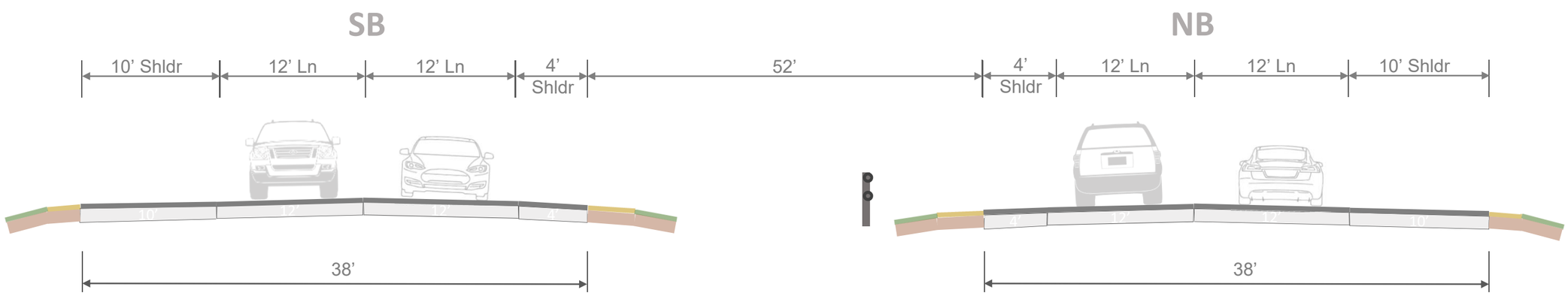
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

CTH N to STH 55

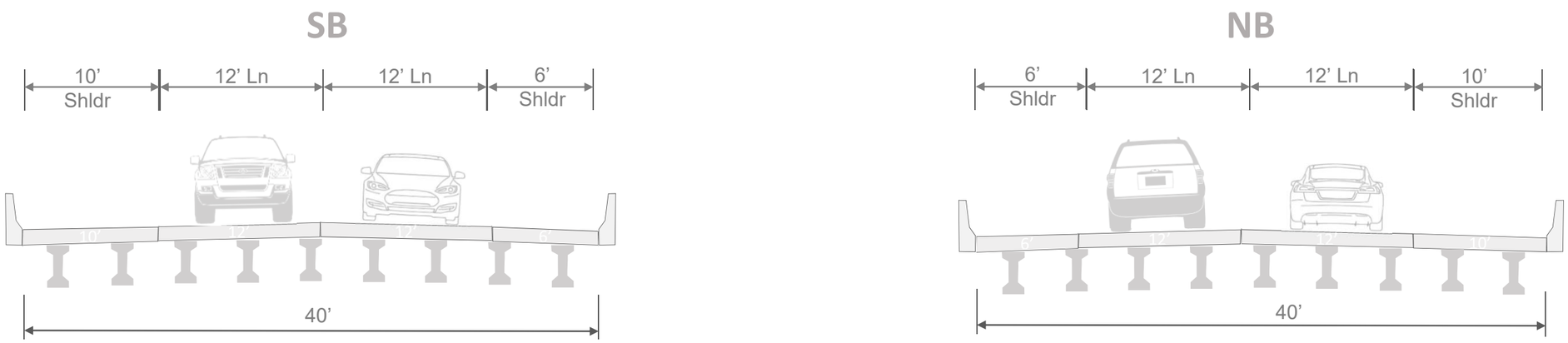
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

STH 55 Bridge

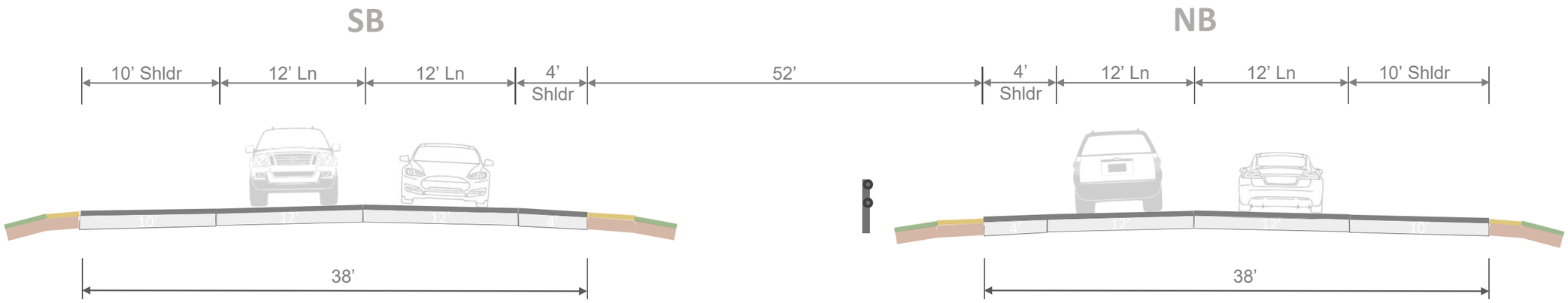
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

STH 55 to CTH J

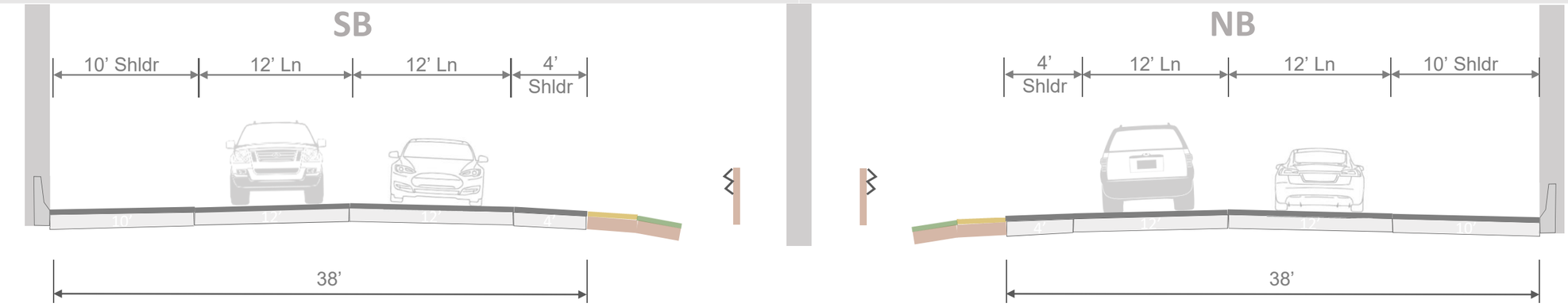
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

CTH J Bridge

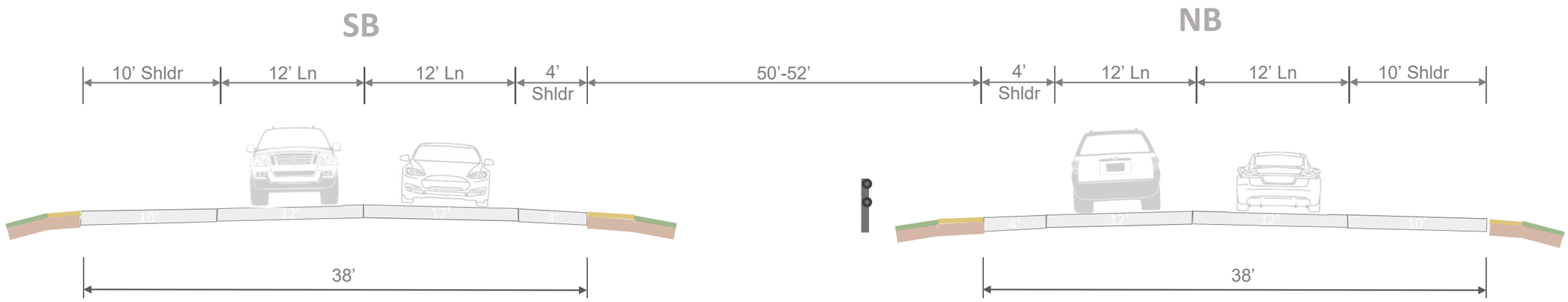
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

CTH J to CTH U

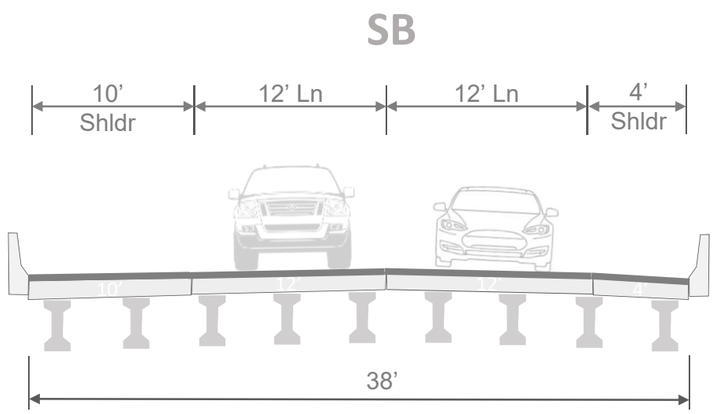
Existing I-41 Cross Section

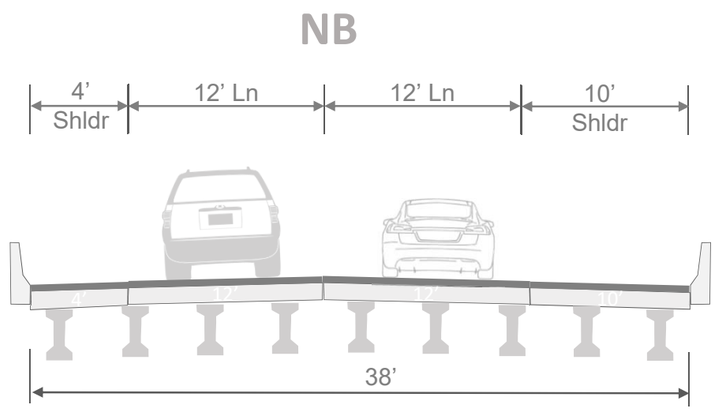


Note: Median width portion of drawing is not to scale

CTH U Bridge

Existing I-41 Cross Section

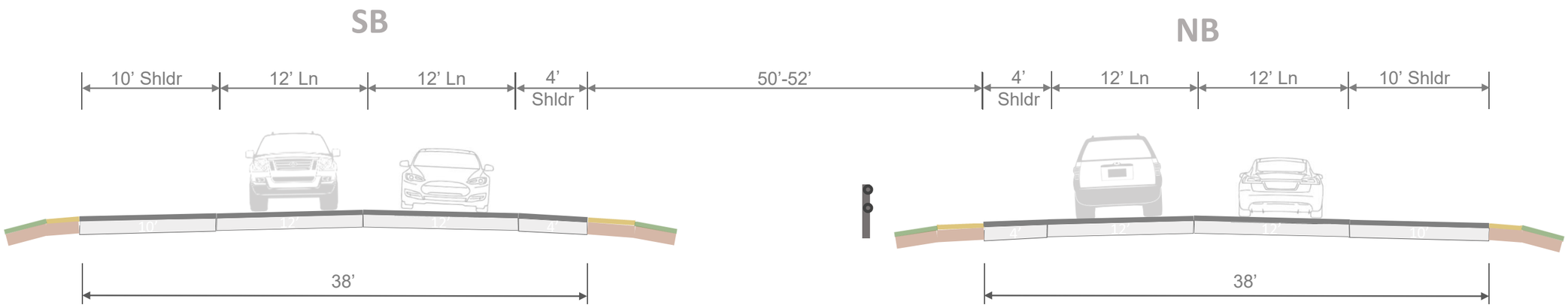




Note: Median width portion of drawing is not to scale

CTH U to CTH S

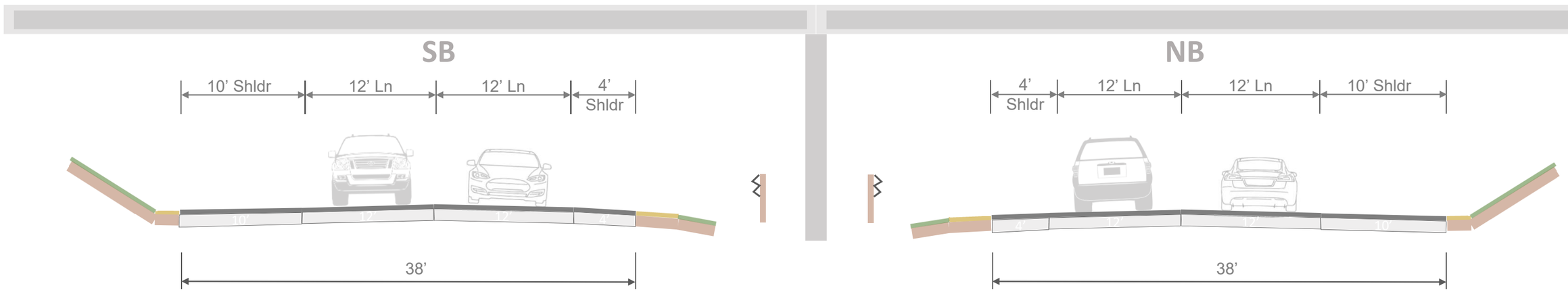
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

CTH S Bridge

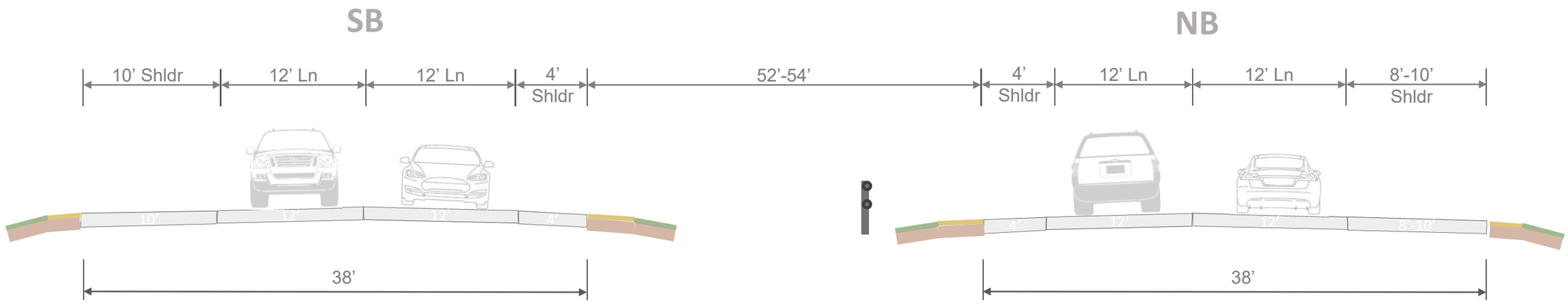
Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

North of CTH S

Existing I-41 Cross Section



Note: Median width portion of drawing is not to scale

ATTACHMENT D
EXISTING CONDITIONS TRAFFIC INPUTS

I-41 IHSDM Analysis: Existing Traffic Inputs Summary (Daily Volumes and High-Volume Hours)

April 2019

EXISTING CONDITIONS

	IHSDM AADT Volume Inputs									
Segment	Station Start	Station End	Year	2-way AADT (vpd)	Mainline Description	Ramp Notes	Weekday Trends (Count #)	Weekend Trends (ATR #)	# Lanes (2-way)	Percent High Volume Hours*
1a	392+00	419+00	2018	76,750	South of CTH BB		ATR 1	ATR 1	6	0.13
1b	419+00	419+10	2018	70,600	CTH BB southern ramps, between gores	Includes SB on, Excludes NB off		(6-lane)	6	0.07
2a	419+10	441+50	2018	65,600	At CTH BB				6	0.00
2b	441+50	445+35	2018	70,100	CTH BB northern ramps, between gores	Includes SB off, Excludes NB on	CC 1		6	0.07
2c	445+35	477+75	2018	74,850	CTH BB to STH 125				6	0.13
2d	477+75	483+95	2018	67,300	STH 125 southern ramps, between gores	Includes NB off, Excludes SB on		ATR 2	6	0.07
3a	483+95	505+55	2018	58,050	At STH 125			(6-lane)	6	0.00
3b	505+55	510+55	2018	62,550	STH 125 northern ramps, between gores	Includes SB off, Excludes NB on	ATR 2		6	0.00
3c	510+55	521+85	2018	67,400	STH 125 to STH 96				6	0.00
3d	521+85	523+00	2018	60,950	STH 96 southern ramps, between gores	Includes NB off, Excludes SB on			6	0.00
4a	523+00	546+35	2018	53,800	At STH 96				6	0.00
4b	546+35	550+75	2018	59,650	STH 96 northern ramps, between gores	Includes SB off, Excludes NB on	ATR 3	ATR 3	6	0.00
4c	550+75	576+30	2018	65,450	STH 96 to STH 15			(6-lane)	6	0.00
4d	576+30	591+30	2018	57,800	STH 15 southern ramps, between gores	Includes SB on, Excludes NB off			5	0.07
5a	591+30	603+65	2018	52,150	At STH 15				4	0.20
5b	603+65	605+10	2018	59,350	STH 15 northern ramps, between gores	Includes NB on, Excludes SB off	CC 2		4	0.25
5c	605+10	735+45	2018	68,350	STH 15 to STH 47				4	0.40
5d	735+45	735+85	2018	63,600	STH 47 southern ramps, between gores	Includes SB on, Excludes NB off			4	0.30
6a	735+85	759+40	2018	58,300	At STH 47				4	0.26
6b	759+40	762+30	2018	64,950	STH 47 northern ramps, between gores	Includes NB on, Excludes SB off	CC 3	ATR 4	4	0.31
6c	762+30	843+80	2018	71,550	STH 47 to CTH E			(4-lane)	4	0.47
6d	843+80	844+30	2018	64,750	CTH E southern ramps, between gores	Includes SB on, Excludes NB off			4	0.31
7a	844+30	863+45	2018	57,250	At CTH E				4	0.25
7b	863+45	863+60	2018	64,150	CTH E northern ramps, between gores	Includes SB off, Excludes NB on	ATR 4		4	0.31
7c	863+60	884+15	2018	73,650	CTH E to STH 441				4	0.64
7d	884+15	890+25	2018	60,650	STH 441 southern ramps, between gores	Includes NB off, Excludes SB on			4	0.31
8a	890+25	904+25	2018	49,450	At STH 441				4	0.14
8b	904+25	917+20	2018	57,100	STH 441 northern ramps, between gores	Includes SB off, Excludes NB on	ATR 5		4	0.26
8c	917+20	1006+00	2018	64,050	STH 441 to CTH N				4	0.31
8d	1006+00	1006+65	2018	59,050	CTH N southern ramps, between gores	Includes NB off, Excludes SB on		ATR 5	4	0.26
9a	1006+65	1027+30	2018	54,300	At CTH N			(4-lane)	4	0.20
9b	1027+30	1027+45	2018	56,250	CTH N northern ramps, between gores	Includes NB on, Excludes SB off	CC 4		4	0.26
9c	1027+45	1112+20	2018	58,800	CTH N to STH 55				4	0.26
9d	1112+20	1114+35	2018	55,300	STH 55 southern ramps, between gores	Includes NB off, Excludes SB on			4	0.26
10a	1114+35	1131+50	2018	51,650	At STH 55				4	0.21
10b	1131+50	1135+75	2018	53,200	STH 55 northern ramps, between gores	Includes SB off, Excludes NB on	CC 5		4	0.21
10c	1135+75	1175+85	2018	54,450	STH 55 to CTH J				4	0.27
10d	1175+85	1176+35	2018	51,650	CTH J southern ramps, between gores	Includes SB on, Excludes NB off			4	0.21
11a	1176+35	1196+10	2018	48,750	At CTH J				4	0.21
11b	1196+10	1197+20	2018	51,400	CTH J northern ramps, between gores	Includes NB on, Excludes SB off			4	0.21
11c	1197+20	1357+80	2018	53,900	CTH J to weigh station			ATR 6	4	0.26
11d	1357+80	1382+15	2018	53,750	At weigh station	Excludes weigh station volume (150 vpd)	CC 6	(4-lane)	4	0.26
11e	1382+15	1395+60	2018	53,900	Weigh station to CTH U				4	0.26
11f	1395+60	1397+75	2018	52,550	CTH U southern ramps, between gores	Includes NB off, Excludes SB on			4	0.21
12a	1397+75	1424+25	2018	51,600	At CTH U				4	0.20
12b	1424+25	1425+00	2018	53,250	CTH U northern ramps, between gores	Includes NB on, Excludes SB off	ATR 6		4	0.26
12c	1425+00	1552+20	2018	55,050	CTH U to CTH S				4	0.26
12d	1552+20	1554+10	2018	53,200	CTH S southern ramps, between gores	Includes NB off, Excludes SB on			4	0.26
13a	1554+10	1580+90	2018	51,800	At CTH S			ATR 7	4	0.20
13b	1580+90	1584+60	2018	54,700	CTH S northern ramps, between gores	Includes SB off, Excludes NB on	ATR 7	(4-lane)	4	0.26
13c	1584+60	1736+57	2018	57,900	CTH S to CTH F				4	0.26

Prefixes: CC = Coverage Count, ATR = Automatic Traffic Recorder

From Ramp Connection inputs: Gore Location Reference		
CTH BB : NB CTH BB Exit Ramp	Exit	419+00
CTH BB : SB CTH BB Entrance Ramp	Entrance	419+10
CTH BB : SB CTH BB Exit Ramp	Exit	441+50
CTH BB : NB CTH BB Entrance Ramp	Entrance	445+35
STH 125/CTH CA : SB STH 125 Entrance Ramp	Entrance	477+75
STH 125/CTH CA : NB STH 125 Exit Ramp	Exit	483+95
STH 125/CTH CA : SB STH 125 Exit Ramp	Exit	505+55
STH 125/CTH CA : NB STH 125 Entrance Ramp	Entrance	510+55
STH 96 : SB STH 96 Entrance Ramp	Entrance	521+85
STH 96 : NB STH 96 Exit Ramp	Exit	523+00
STH 96 : SB STH 96 Exit Ramp	Exit	546+35
STH 96 : NB STH 96 Entrance Ramp	Entrance	550+75
STH 15 : NB STH 15 Exit Ramp	Exit	576+30
STH 15 : SB STH 15 Entrance Ramp	Entrance	591+30
STH 15 : NB STH 15 Entrance Ramp	Entrance	603+65
STH 15 : SB STH 15 Exit Ramp	Exit	605+10
STH 47 : NB STH 47 Exit Ramp	Exit	735+45
STH 47 : SB STH 47 Entrance Ramp	Entrance	735+85
STH 47 : NB STH 47 Entrance Ramp	Entrance	759+40
STH 47 : SB STH 47 Exit Ramp	Exit	762+30
CTH E : NB CTH E Exit Ramp	Exit	843+80
CTH E : SB CTH E Entrance Ramp	Entrance	844+30
CTH E : SB CTH E Exit Ramp	Exit	863+45
CTH E : NB CTH E Entrance Ramp	Entrance	863+60
STH 441 : SB STH 441 Entrance Ramp	Entrance	884+15
STH 441 : NB STH 441 Exit Ramp	Exit	890+25
STH 441 : SB STH 441 Exit Ramp	Exit	904+25
STH 441 : NB STH 441 Entrance Ramp	Entrance	917+20
CTH N : SB CTH N Entrance Ramp	Entrance	1006+00
CTH N : NB CTH N Exit Ramp	Exit	1006+65
CTH N : NB CTH N Entrance Ramp	Entrance	1027+30
CTH N : SB CTH N Exit Ramp	Exit	1027+45
STH 55 : NB STH 55 Exit Ramp	Exit	1112+20
STH 55 : SB STH 55 Entrance Ramp	Entrance	1114+35
STH 55 : SB STH 55 Exit Ramp	Exit	1131+50
STH 55 : NB STH 55 Entrance Ramp	Entrance	1135+75
CTH J : NB CTH J Exit Ramp	Exit	1175+85
CTH J : SB CTH J Entrance Ramp	Entrance	1176+35
CTH J : NB CTH J Entrance Ramp	Entrance	1196+10
CTH J : SB CTH J Exit Ramp	Exit	1197+20
Weigh Station : NB Weigh Station Exit Ramp	Exit	1357+80
Weigh Station : NB Weigh Station Entrance Ramp	Entrance	1382+15
CTH U : SB CTH U Entrance Ramp	Entrance	1395+60
CTH U : NB CTH U Exit Ramp	Exit	1397+75
CTH U : NB CTH U Entrance Ramp	Entrance	1424+25
CTH U : SB CTH U Exit Ramp	Exit	1425+00
CTH S : SB CTH S Entrance Ramp	Entrance	1552+20
CTH S : NB CTH S Exit Ramp	Exit	1554+10
CTH S : SB CTH S Exit Ramp	Exit	1580+90
CTH S : NB CTH S Entrance Ramp	Entrance	1584+60
	END =	**1736+57**

I-41 Daily Traffic

April 2019 (Draft)

Volume Scenario	Base (2018) AADT Volumes

Graphic Notes:

AADT volumes are balanced

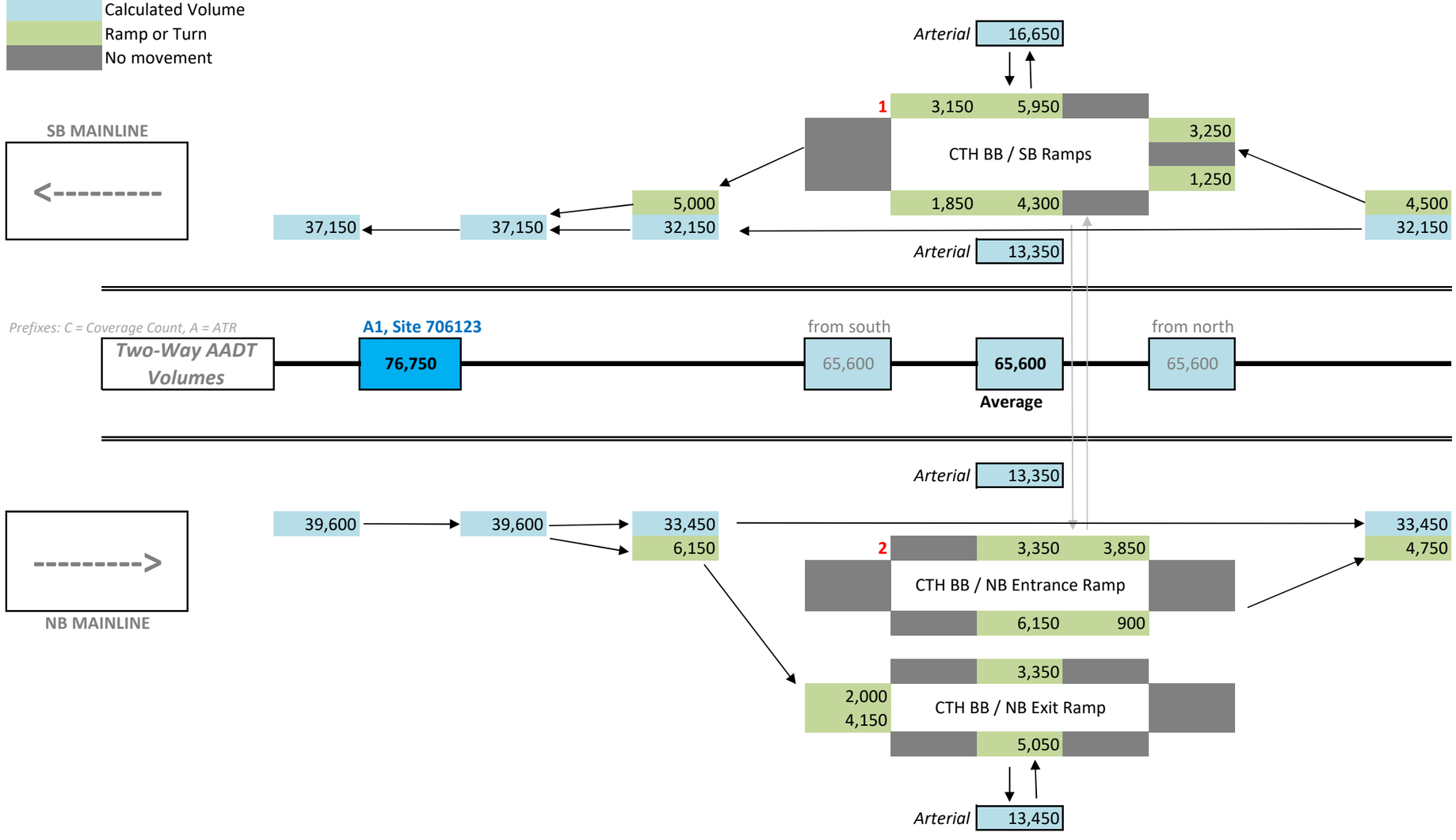
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

April 2019 (Draft)

Volume Scenario	Base (2018) AADT Volumes

Graphic Notes:

AADT volumes are balanced

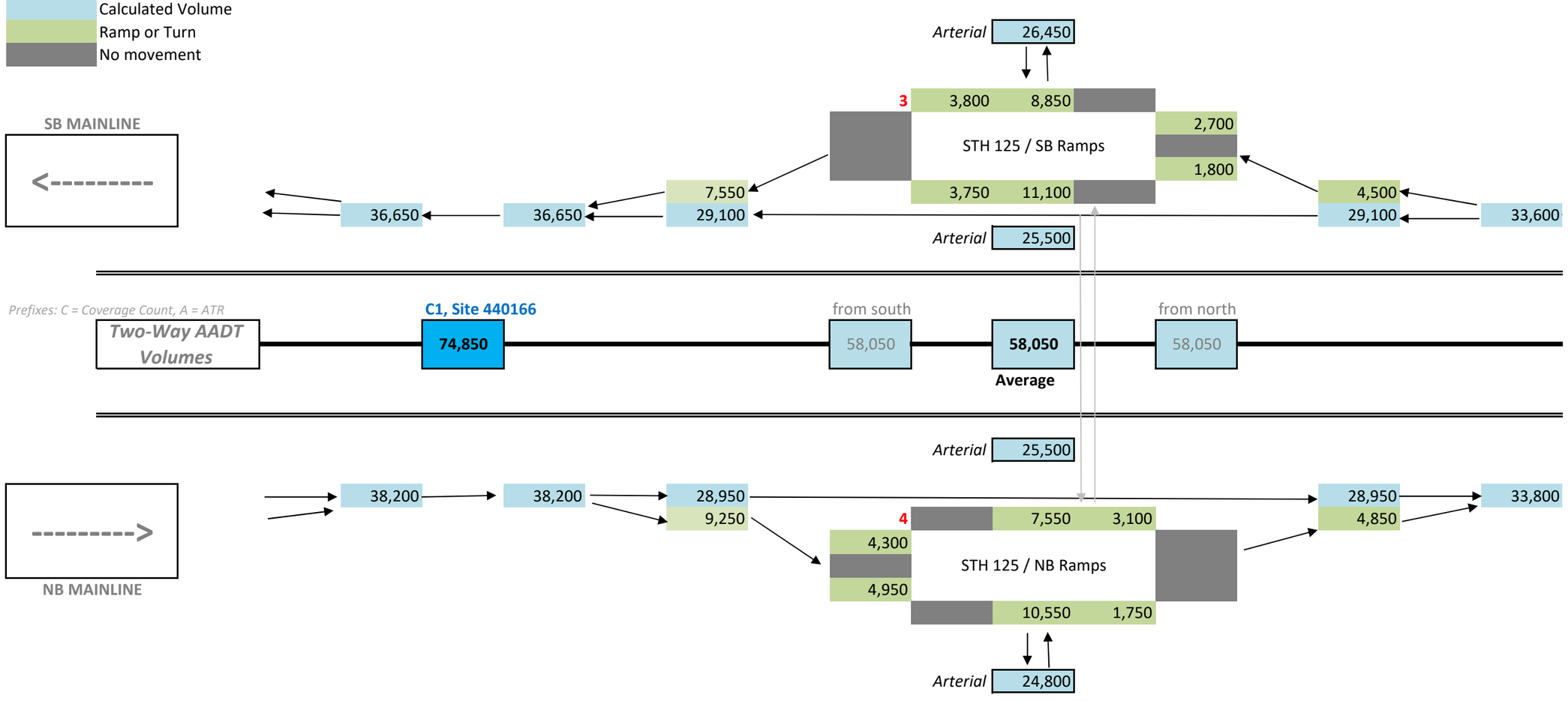
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

April 2019 (Draft)

Volume Scenario	Base (2018) AADT Volumes

Graphic Notes:

AADT volumes are balanced

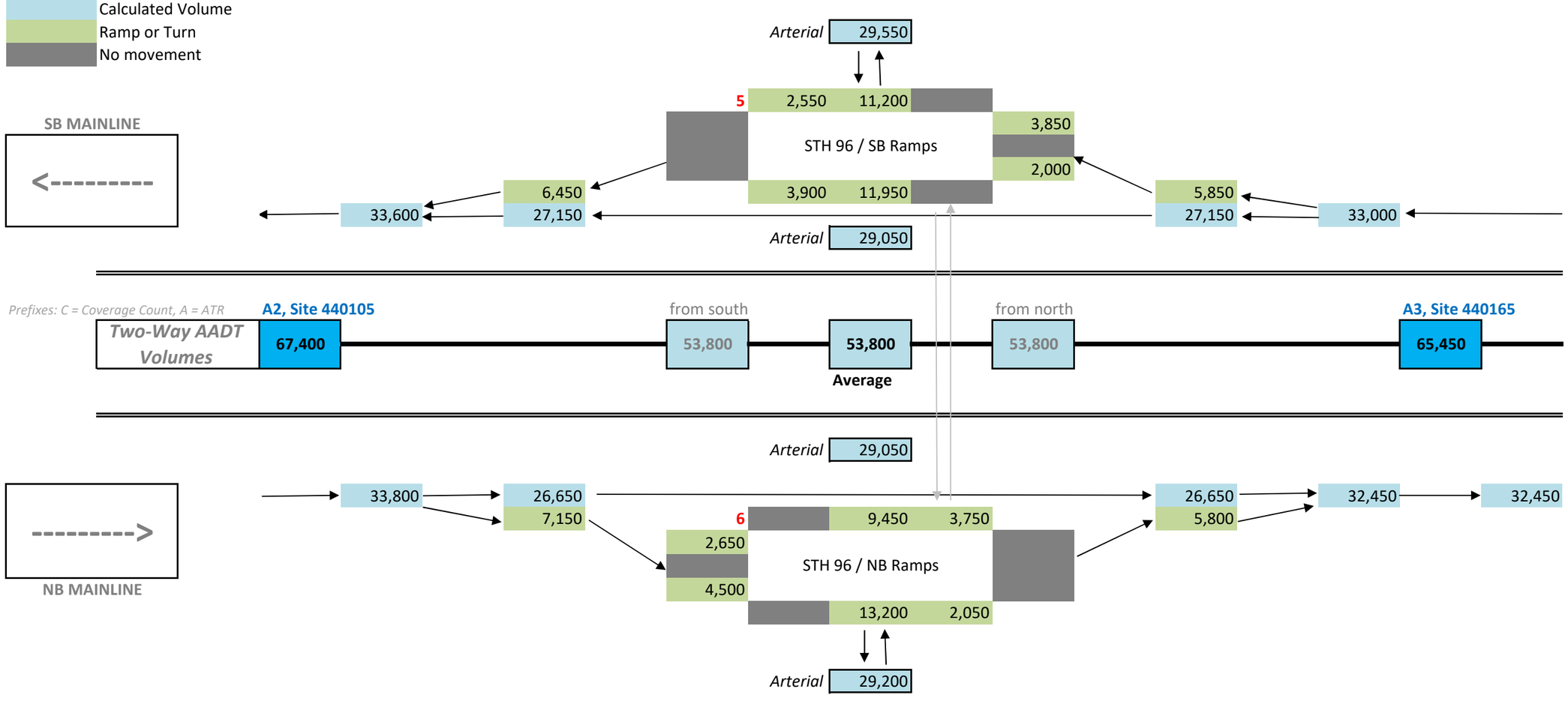
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

April 2019 (Draft)

Volume Scenario	Base (2018) AADT Volumes

Graphic Notes:

AADT volumes are balanced

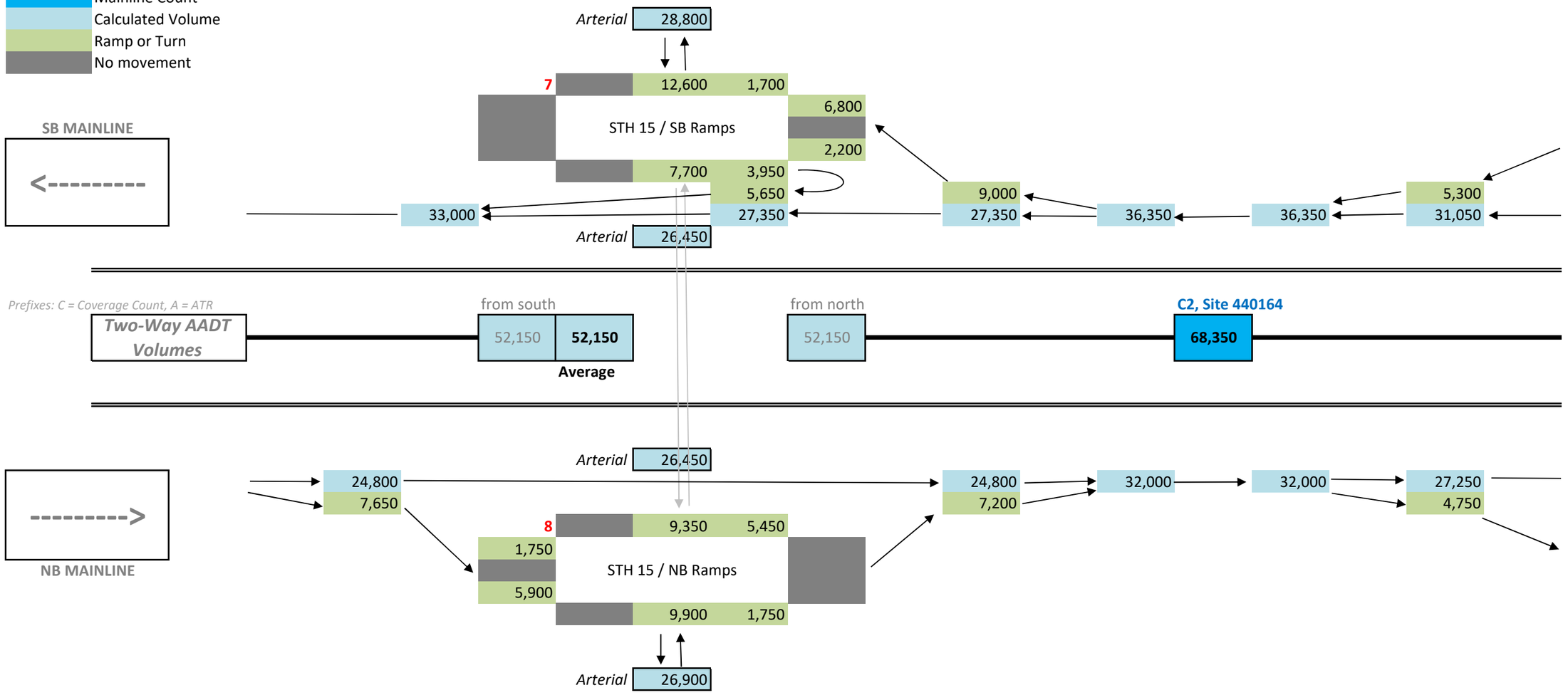
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

April 2019 (Draft)

Volume Scenario	Base (2018) AADT Volumes

Graphic Notes:

AADT volumes are balanced

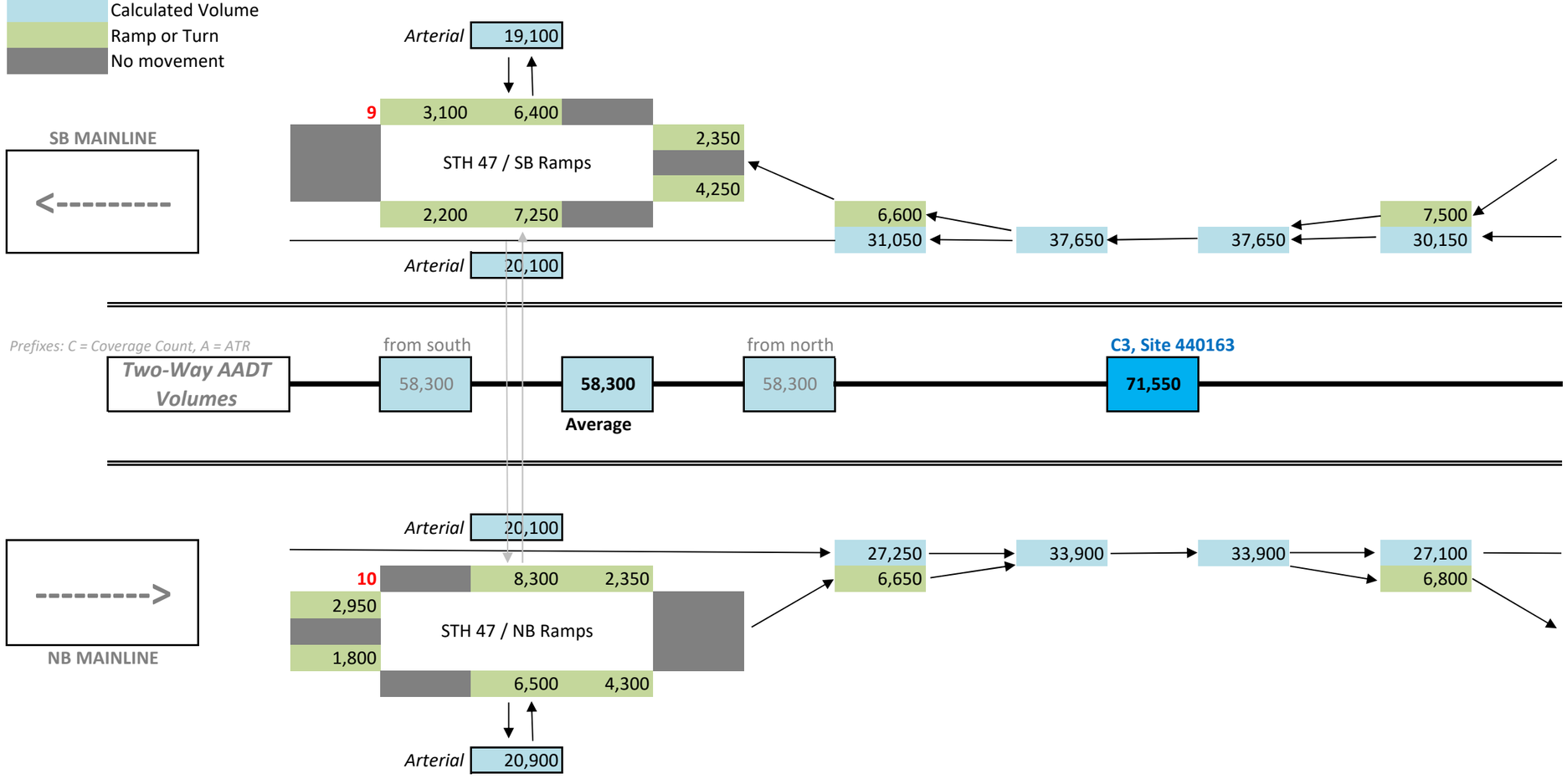
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

April 2019 (Draft)

Volume Scenario	Base (2018) AADT Volumes

Graphic Notes:

AADT volumes are balanced

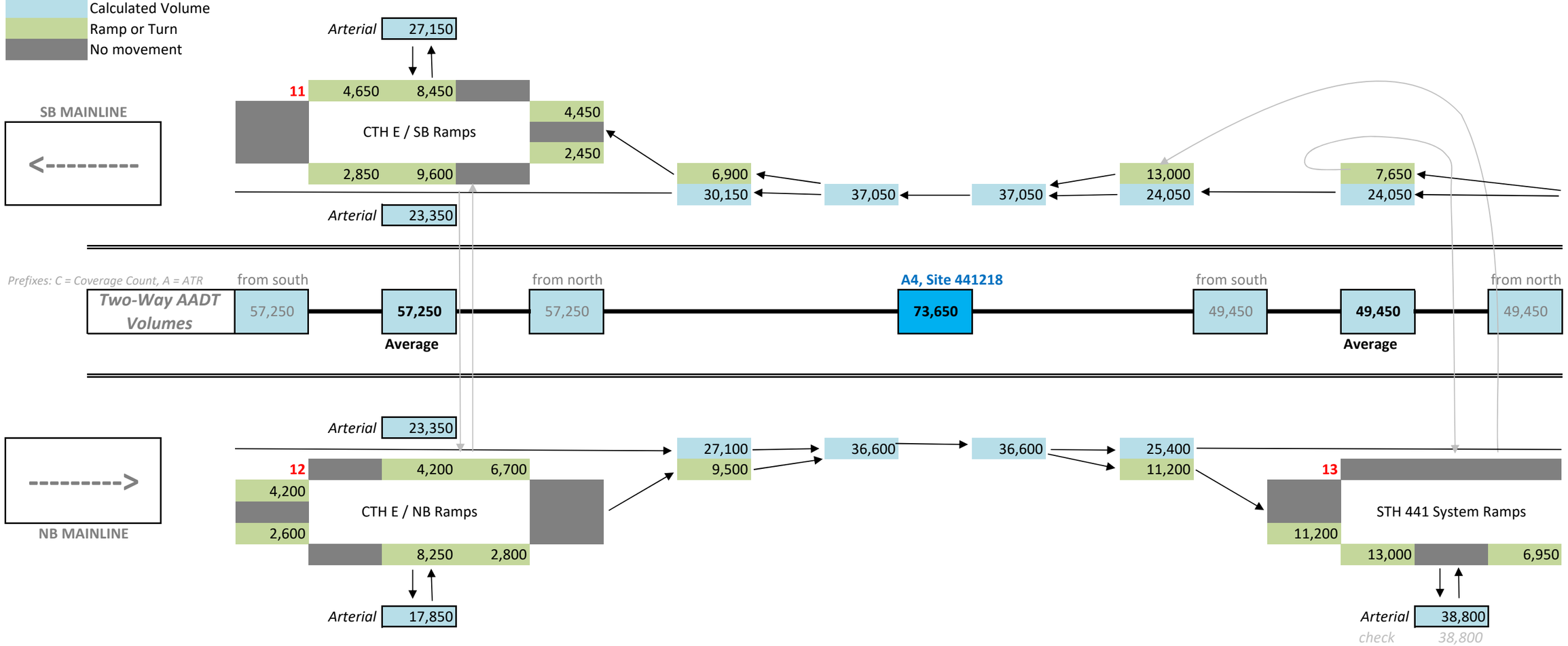
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

April 2019 (Draft)

Volume Scenario	Base (2018) AADT Volumes

Graphic Notes:

AADT volumes are balanced

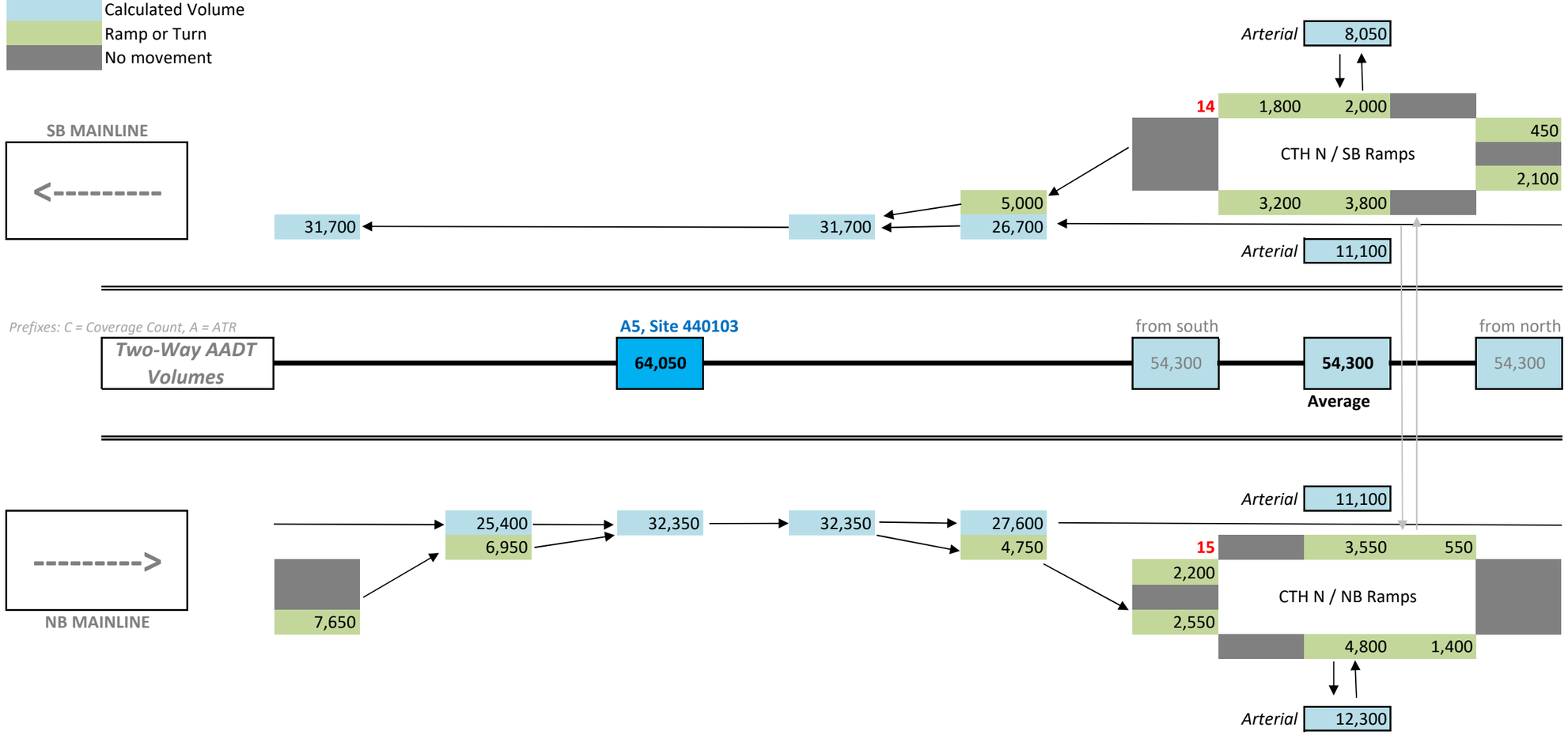
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

April 2019 (Draft)

Volume Scenario	Base (2018) AADT Volumes

Graphic Notes:

AADT volumes are balanced

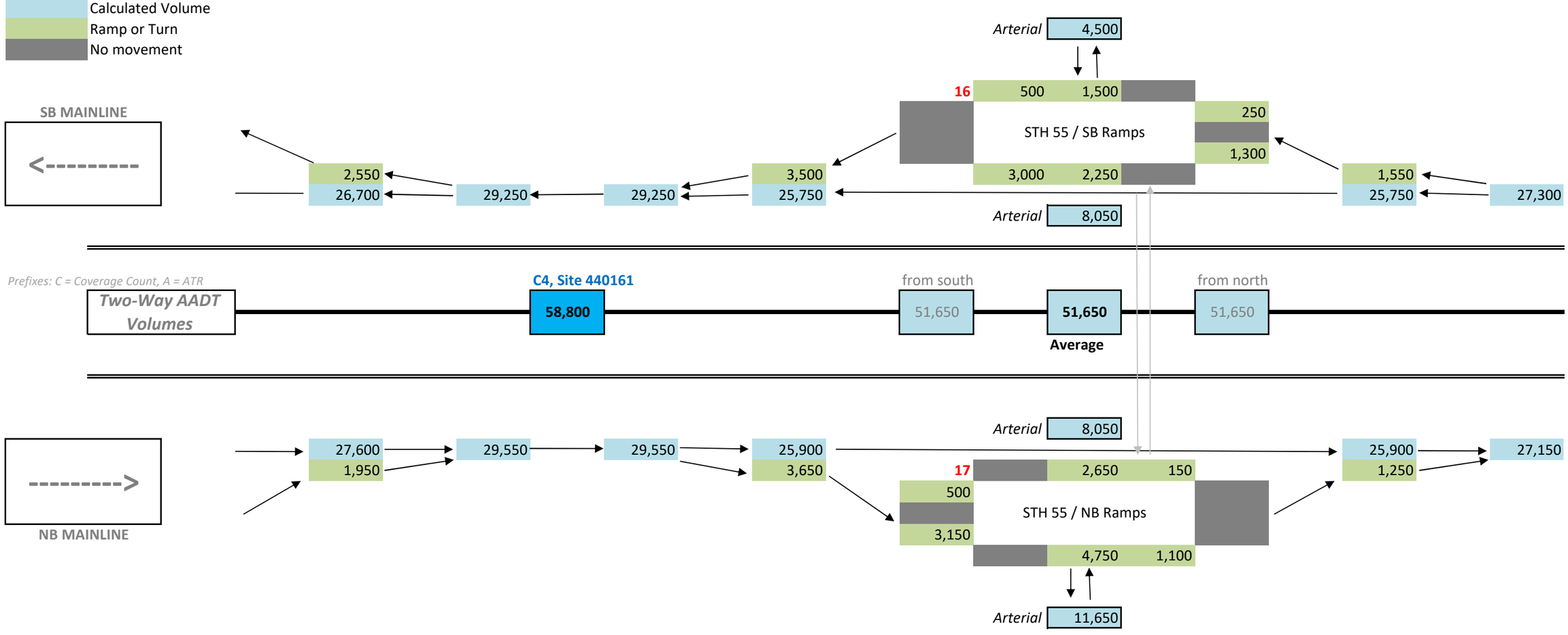
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

April 2019 (Draft)

Volume Scenario	Base (2018) AADT Volumes

Graphic Notes:

AADT volumes are balanced

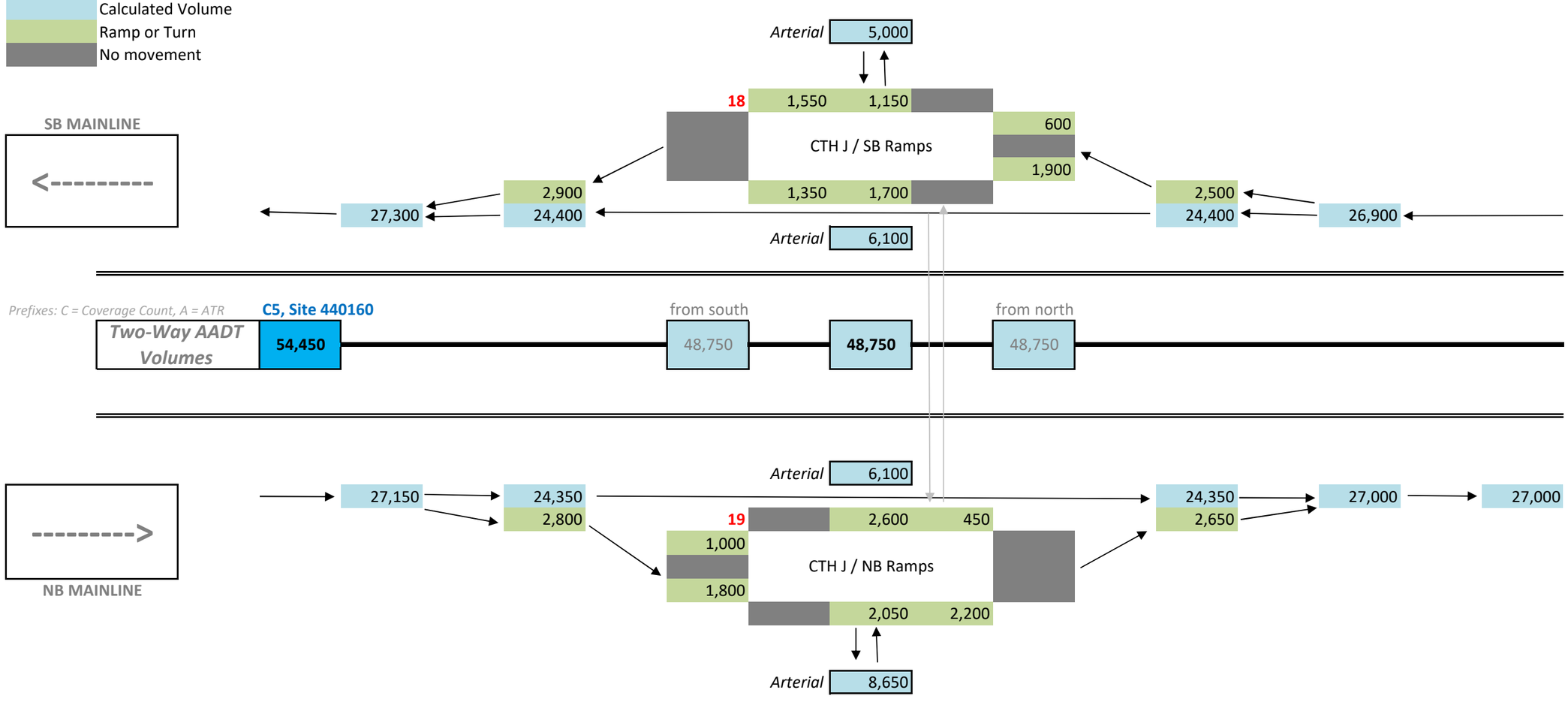
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

April 2019 (Draft)

Volume Scenario	Base (2018) AADT Volumes

Graphic Notes:

AADT volumes are balanced

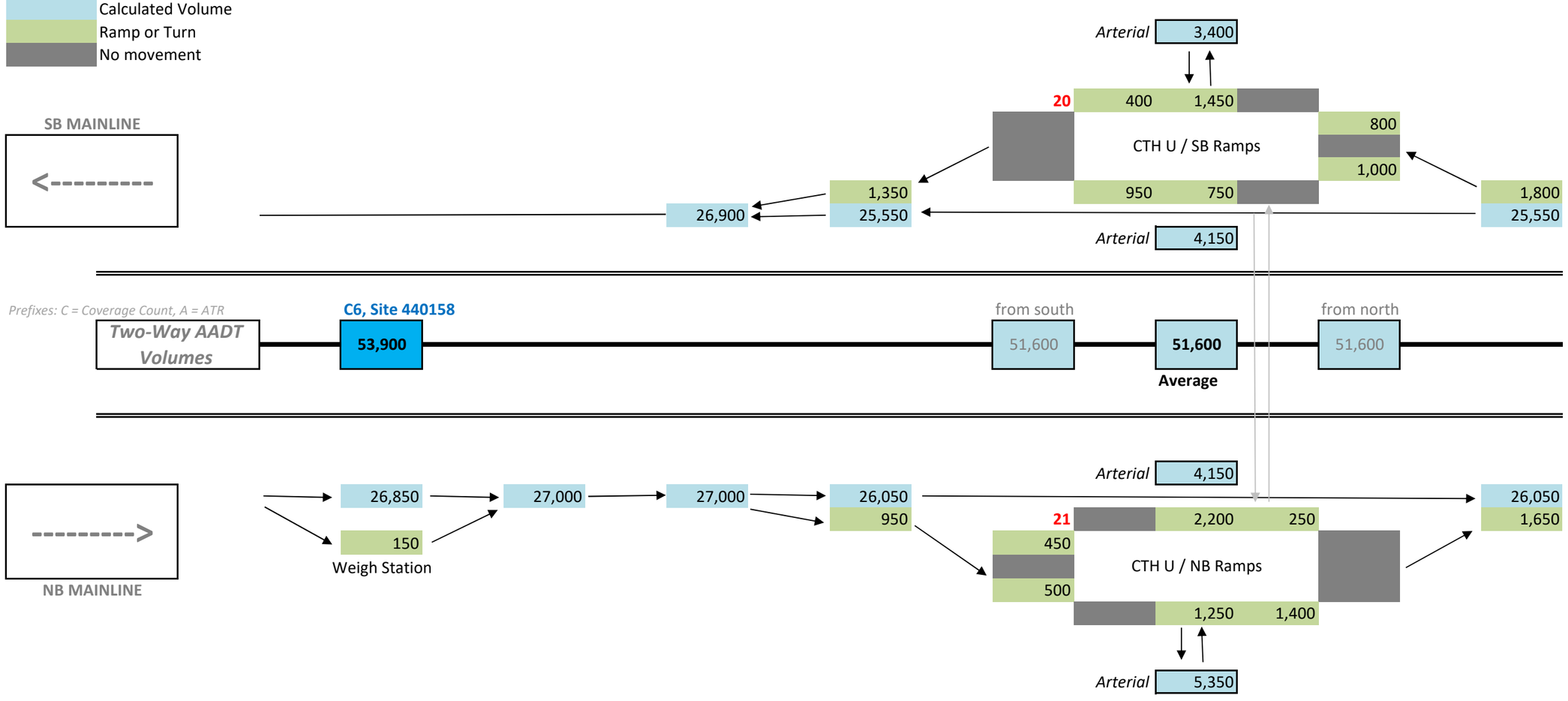
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

April 2019 (Draft)

Volume Scenario	Base (2018) AADT Volumes

Graphic Notes:

AADT volumes are balanced

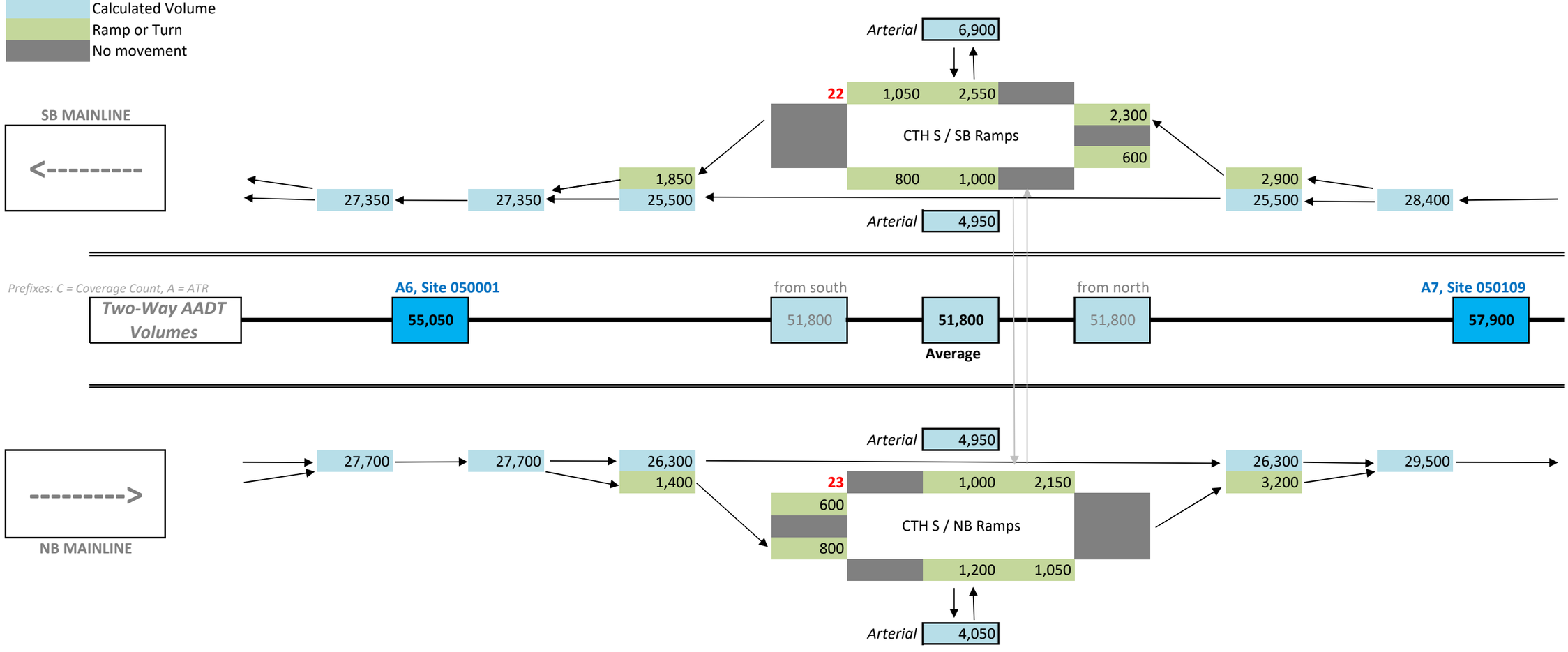
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



ATTACHMENT E
EXISTING CONDITIONS HIGH-VOLUME HOUR WORKSHEETS

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	1a
Existing AADT for IHSDM	76,750

2018 Annual ATR Data	
Location	USH 41 - South of CTH BB
Site #	706123
Trend ID	1 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	209	239	447	324	310	634	288	316	604
01:00-01:59	176	205	381	216	205	421	191	200	391
02:00-02:59	142	181	323	166	189	355	137	187	324
03:00-03:59	212	260	472	172	185	357	105	134	239
04:00-04:59	476	596	1,073	228	269	497	127	165	292
05:00-05:59	1,030	1,276	2,306	392	449	841	238	289	527
06:00-06:59	1,939	2,230	4,170	626	755	1,381	354	425	779
07:00-07:59	3,100	3,400	6,499	1,012	1,095	2,107	587	610	1,197
08:00-08:59	2,440	2,538	4,978	1,459	1,536	2,995	911	1,014	1,925
09:00-09:59	2,087	2,058	4,145	2,000	1,912	3,912	1,525	1,438	2,963
10:00-10:59	2,177	2,182	4,358	2,463	2,284	4,747	1,994	1,989	3,983
11:00-11:59	2,319	2,439	4,757	2,635	2,466	5,101	2,225	2,397	4,622
12:00-12:59	2,403	2,633	5,036	2,613	2,644	5,257	2,271	2,593	4,864
13:00-13:59	2,436	2,820	5,256	2,494	2,647	5,141	2,100	2,596	4,696
14:00-14:59	2,709	3,145	5,853	2,375	2,640	5,015	2,014	2,681	4,695
15:00-15:59	3,204	3,448	6,652	2,289	2,593	4,882	1,992	2,744	4,736
16:00-16:59	3,679	3,927	7,606	2,183	2,512	4,695	1,901	2,660	4,561
17:00-17:59	3,162	3,396	6,558	1,971	2,302	4,273	1,673	2,300	3,973
18:00-18:59	1,997	2,203	4,200	1,621	1,933	3,554	1,377	1,889	3,266
19:00-19:59	1,313	1,616	2,929	1,210	1,547	2,757	1,055	1,412	2,467
20:00-20:59	953	1,396	2,349	955	1,350	2,305	804	990	1,794
21:00-21:59	734	1,083	1,818	775	1,185	1,960	568	728	1,296
22:00-22:59	580	720	1,300	625	872	1,497	398	455	853
23:00-23:59	366	387	754	455	539	994	230	276	506

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	142%	135%
0.5%	110%	103%
0.4%	110%	100%
0.6%	76%	51%
1.3%	46%	27%
2.7%	36%	23%
5.0%	33%	19%
7.7%	32%	18%
5.9%	60%	39%
4.9%	94%	71%
5.2%	109%	91%
5.6%	107%	97%
6.0%	104%	97%
6.2%	98%	89%
6.9%	86%	80%
7.9%	73%	71%
9.0%	62%	60%
7.8%	65%	61%
5.0%	85%	78%
3.5%	94%	84%
2.8%	98%	76%
2.2%	108%	71%
1.5%	115%	66%
0.9%	132%	67%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	408	578	550
01:00-01:59	347	384	356
02:00-02:59	294	324	295
03:00-03:59	430	325	218
04:00-04:59	978	453	266
05:00-05:59	2,101	766	480
06:00-06:59	3,800	1,259	710
07:00-07:59	5,923	1,920	1,091
08:00-08:59	4,536	2,729	1,754
09:00-09:59	3,778	3,565	2,700
10:00-10:59	3,972	4,326	3,630
11:00-11:59	4,335	4,649	4,212
12:00-12:59	4,590	4,791	4,433
13:00-13:59	4,790	4,685	4,279
14:00-14:59	5,334	4,570	4,279
15:00-15:59	6,062	4,449	4,316
16:00-16:59	6,931	4,279	4,156
17:00-17:59	5,977	3,894	3,621
18:00-18:59	3,827	3,239	2,976
19:00-19:59	2,669	2,512	2,248
20:00-20:59	2,140	2,101	1,635
21:00-21:59	1,657	1,786	1,181
22:00-22:59	1,185	1,364	777
23:00-23:59	687	906	461
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	64,965	0	0	64,965
Total Volume	383,750	59,853	50,626	494,228
				13%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	1b
Existing AADT for IHSDM	70,600

2018 Annual ATR Data	
Location	USH 41 - South of CTH BB
Site #	706123
Trend ID	1 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	209	239	447	324	310	634	288	316	604
01:00-01:59	176	205	381	216	205	421	191	200	391
02:00-02:59	142	181	323	166	189	355	137	187	324
03:00-03:59	212	260	472	172	185	357	105	134	239
04:00-04:59	476	596	1,073	228	269	497	127	165	292
05:00-05:59	1,030	1,276	2,306	392	449	841	238	289	527
06:00-06:59	1,939	2,230	4,170	626	755	1,381	354	425	779
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14:00-14:59	2,709	3,145	5,853	2,375	2,640	5,015	2,014	2,681	4,695
15:00-15:59	3,204	3,448	6,652	2,289	2,593	4,882	1,992	2,744	4,736
16:00-16:59	3,679	3,927	7,606	2,183	2,512	4,695	1,901	2,660	4,561
17:00-17:59	3,162	3,396	6,558	1,971	2,302	4,273	1,673	2,300	3,973
18:00-18:59	1,997	2,203	4,200	1,621	1,933	3,554	1,377	1,889	3,266
19:00-19:59	1,313	1,616	2,929	1,210	1,547	2,757	1,055	1,412	2,467
20:00-20:59	953	1,396	2,349	955	1,350	2,305	804	990	1,794
21:00-21:59	734	1,083	1,818	775	1,185	1,960	568	728	1,296
22:00-22:59	580	720	1,300	625	872	1,497	398	455	853
23:00-23:59	366	387	754	455	539	994	230	276	506

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	142%	135%
0.5%	110%	103%
0.4%	110%	100%
0.6%	76%	51%
1.3%	46%	27%
2.7%	36%	23%
5.0%	33%	19%
7.7%	32%	18%
5.9%	60%	39%
4.9%	94%	71%
5.2%	109%	91%
5.6%	107%	97%
6.0%	104%	97%
6.2%	98%	89%
6.9%	86%	80%
7.9%	73%	71%
9.0%	62%	60%
7.8%	65%	61%
5.0%	85%	78%
3.5%	94%	84%
2.8%	98%	76%
2.2%	108%	71%
1.5%	115%	66%
0.9%	132%	67%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	375	531	506
01:00-01:59	320	353	328
02:00-02:59	271	298	272
03:00-03:59	396	299	200
04:00-04:59	899	417	245
05:00-05:59	1,933	705	442
06:00-06:59	3,495	1,158	653
07:00-07:59	5,448	1,766	1,003
08:00-08:59	4,173	2,511	1,614
09:00-09:59	3,475	3,279	2,484
10:00-10:59	3,654	3,979	3,339
11:00-11:59	3,988	4,276	3,875
12:00-12:59	4,222	4,407	4,077
13:00-13:59	4,406	4,310	3,937
14:00-14:59	4,907	4,204	3,936
15:00-15:59	5,576	4,092	3,970
16:00-16:59	6,376	3,936	3,823
17:00-17:59	5,498	3,582	3,330
18:00-18:59	3,521	2,979	2,738
19:00-19:59	2,455	2,311	2,068
20:00-20:59	1,969	1,932	1,504
21:00-21:59	1,524	1,643	1,086
22:00-22:59	1,090	1,255	715
23:00-23:59	632	833	424
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	31,880	0	0	31,880
Total Volume	353,000	55,057	46,569	454,626
				7%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	2a
Existing AADT for IHSDM	65,600

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH BB & STH 125
Site #	440166
Trend ID	1 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	262	252	252			337			330
01:00-01:59	193	178	371			395			382
02:00-02:59	174	155	328			336			295
03:00-03:59	170	333	503			362			229
04:00-04:59	446	652	1,098			484			282
05:00-05:59	1,098	1,430	2,528			866			548
06:00-06:59	1,996	2,575	4,571			1,452			798
07:00-07:59	3,129	3,692	6,821			2,174			1,261
08:00-08:59	2,619	2,494	5,112			3,074			1,984
09:00-09:59	2,302	2,139	4,441			4,152			3,232
10:00-10:59	2,327	2,125	4,452			4,703			4,085
11:00-11:59	2,585	2,348	4,932			5,050			4,693
12:00-12:59	2,564	2,606	5,170			5,062			4,862
13:00-13:59	2,622	2,854	5,476			4,968			4,700
14:00-14:59	3,017	2,882	5,898			4,714			4,550
15:00-15:59	3,408	3,152	6,560			4,404			4,442
16:00-16:59	4,343	3,762	8,104			4,667			4,662
17:00-17:59	3,763	3,401	7,163			4,355			4,250
18:00-18:59	2,411	2,204	4,615			3,696			3,596
19:00-19:59	1,619	1,663	3,282			3,015			2,902
20:00-20:59	1,201	1,614	2,815			2,726			2,265
21:00-21:59	887	1,452	2,339			2,544			1,739
22:00-22:59	692	772	1,464			1,695			1,006
23:00-23:59	417	363	779			1,036			537

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.2%	44%	26%
2.8%	34%	22%
5.1%	32%	17%
7.7%	32%	18%
5.7%	60%	39%
5.0%	94%	73%
5.0%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.6%	80%	77%
7.4%	67%	68%
9.1%	58%	58%
8.0%	61%	59%
5.2%	80%	78%
3.7%	92%	88%
3.2%	97%	80%
2.6%	109%	74%
1.6%	116%	69%
0.9%	133%	69%

*Trends from ATR 440105

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	186	248	243
01:00-01:59	273	291	282
02:00-02:59	242	247	217
03:00-03:59	370	267	168
04:00-04:59	809	357	208
05:00-05:59	1,862	638	404
06:00-06:59	3,366	1,070	588
07:00-07:59	5,023	1,601	929
08:00-08:59	3,765	2,264	1,461
09:00-09:59	3,270	3,058	2,380
10:00-10:59	3,279	3,464	3,008
11:00-11:59	3,632	3,719	3,457
12:00-12:59	3,807	3,729	3,581
13:00-13:59	4,033	3,659	3,462
14:00-14:59	4,344	3,472	3,351
15:00-15:59	4,832	3,243	3,272
16:00-16:59	5,969	3,437	3,434
17:00-17:59	5,276	3,208	3,130
18:00-18:59	3,399	2,722	2,648
19:00-19:59	2,417	2,220	2,137
20:00-20:59	2,073	2,008	1,668
21:00-21:59	1,722	1,874	1,281
22:00-22:59	1,078	1,249	741
23:00-23:59	574	763	396
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/In	0	0	0	0
Total Volume	328,000	48,807	42,446	419,253
				0%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH BB & STH 125
Site #	440166
Trend ID	1 - COV

Segment	2b
Existing AADT for IHSDM	70,100

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	262	252	252			337			330
01:00-01:59	193	178	371			395			382
02:00-02:59	174	155	328			336			295
03:00-03:59	170	333	503			362			229
04:00-04:59	446	652	1,098			484			282
05:00-05:59	1,098	1,430	2,528			866			548
06:00-06:59	1,996	2,575	4,571			1,452			798
07:00-07:59	3,129	3,692	6,821			2,174			1,261
08:00-08:59	2,619	2,494	5,112			3,074			1,984
09:00-09:59	2,302	2,139	4,441			4,152			3,232
10:00-10:59	2,327	2,125	4,452			4,703			4,085
11:00-11:59	2,585	2,348	4,932			5,050			4,693
12:00-12:59	2,564	2,606	5,170			5,062			4,862
13:00-13:59	2,622	2,854	5,476			4,968			4,700
14:00-14:59	3,017	2,882	5,898			4,714			4,550
15:00-15:59	3,408	3,152	6,560			4,404			4,442
16:00-16:59	4,343	3,762	8,104			4,667			4,662
17:00-17:59	3,763	3,401	7,163			4,355			4,250
18:00-18:59	2,411	2,204	4,615			3,696			3,596
19:00-19:59	1,619	1,663	3,282			3,015			2,902
20:00-20:59	1,201	1,614	2,815			2,726			2,265
21:00-21:59	887	1,452	2,339			2,544			1,739
22:00-22:59	692	772	1,464			1,695			1,006
23:00-23:59	417	363	779			1,036			537
	Raw coverage count data			Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.					

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.2%	44%	26%
2.8%	34%	22%
5.1%	32%	17%
7.7%	32%	18%
5.7%	60%	39%
5.0%	94%	73%
5.0%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.6%	80%	77%
7.4%	67%	68%
9.1%	58%	58%
8.0%	61%	59%
5.2%	80%	78%
3.7%	92%	88%
3.2%	97%	80%
2.6%	109%	74%
1.6%	116%	69%
0.9%	133%	69%
	*Trends from ATR 440105	

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	198	265	260
01:00-01:59	292	311	301
02:00-02:59	258	264	232
03:00-03:59	395	285	180
04:00-04:59	864	381	222
05:00-05:59	1,989	682	431
06:00-06:59	3,597	1,143	628
07:00-07:59	5,368	1,711	993
08:00-08:59	4,023	2,420	1,562
09:00-09:59	3,495	3,268	2,544
10:00-10:59	3,504	3,702	3,215
11:00-11:59	3,882	3,975	3,694
12:00-12:59	4,069	3,984	3,827
13:00-13:59	4,309	3,910	3,699
14:00-14:59	4,642	3,710	3,581
15:00-15:59	5,163	3,466	3,496
16:00-16:59	6,378	3,673	3,669
17:00-17:59	5,638	3,428	3,345
18:00-18:59	3,632	2,909	2,830
19:00-19:59	2,583	2,373	2,284
20:00-20:59	2,215	2,145	1,783
21:00-21:59	1,840	2,002	1,368
22:00-22:59	1,152	1,334	792
23:00-23:59	613	815	423
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/In	31,891	0	0	31,891
Total Volume	350,500	52,155	45,358	448,013
				7%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	2c
Existing AADT for IHSDM	74,850

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH BB & STH 125
Site #	440166
Trend ID	1 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	262	252	252			337			330
01:00-01:59	193	178	371			395			382
02:00-02:59	174	155	328			336			295
03:00-03:59	170	333	503			362			229
04:00-04:59	446	652	1,098			484			282
05:00-05:59	1,098	1,430	2,528			866			548
06:00-06:59	1,996	2,575	4,571			1,452			798
07:00-07:59	3,129	3,692	6,821			2,174			1,261
08:00-08:59	2,619	2,494	5,112			3,074			1,984
09:00-09:59	2,302	2,139	4,441			4,152			3,232
10:00-10:59	2,327	2,125	4,452			4,703			4,085
11:00-11:59	2,585	2,348	4,932			5,050			4,693
12:00-12:59	2,564	2,606	5,170			5,062			4,862
13:00-13:59	2,622	2,854	5,476			4,968			4,700
14:00-14:59	3,017	2,882	5,898			4,714			4,550
15:00-15:59	3,408	3,152	6,560			4,404			4,442
16:00-16:59	4,343	3,762	8,104			4,667			4,662
17:00-17:59	3,763	3,401	7,163			4,355			4,250
18:00-18:59	2,411	2,204	4,615			3,696			3,596
19:00-19:59	1,619	1,663	3,282			3,015			2,902
20:00-20:59	1,201	1,614	2,815			2,726			2,265
21:00-21:59	887	1,452	2,339			2,544			1,739
22:00-22:59	692	772	1,464			1,695			1,006
23:00-23:59	417	363	779			1,036			537

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.2%	44%	26%
2.8%	34%	22%
5.1%	32%	17%
7.7%	32%	18%
5.7%	60%	39%
5.0%	94%	73%
5.0%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.6%	80%	77%
7.4%	67%	68%
9.1%	58%	58%
8.0%	61%	59%
5.2%	80%	78%
3.7%	92%	88%
3.2%	97%	80%
2.6%	109%	74%
1.6%	116%	69%
0.9%	133%	69%

*Trends from ATR 440105

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	212	283	277
01:00-01:59	311	332	321
02:00-02:59	276	282	248
03:00-03:59	422	304	192
04:00-04:59	923	407	237
05:00-05:59	2,124	728	461
06:00-06:59	3,841	1,220	671
07:00-07:59	5,732	1,827	1,060
08:00-08:59	4,296	2,584	1,667
09:00-09:59	3,732	3,489	2,716
10:00-10:59	3,742	3,953	3,433
11:00-11:59	4,145	4,244	3,944
12:00-12:59	4,344	4,254	4,086
13:00-13:59	4,601	4,175	3,950
14:00-14:59	4,956	3,961	3,823
15:00-15:59	5,513	3,701	3,733
16:00-16:59	6,810	3,922	3,918
17:00-17:59	6,020	3,660	3,572
18:00-18:59	3,878	3,106	3,022
19:00-19:59	2,758	2,533	2,439
20:00-20:59	2,365	2,291	1,903
21:00-21:59	1,965	2,138	1,461
22:00-22:59	1,230	1,425	845
23:00-23:59	655	871	451
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	64,149	0	0	64,149
Total Volume	374,250	55,690	48,431	478,371
				13%

CC 1

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	2d
Existing AADT for IHSDM	67,300

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH BB & STH 125
Site #	440166
Trend ID	1 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	262	252	252			337			330
01:00-01:59	193	178	371			395			382
02:00-02:59	174	155	328			336			295
03:00-03:59	170	333	503			362			229
04:00-04:59	446	652	1,098			484			282
05:00-05:59	1,098	1,430	2,528			866			548
06:00-06:59	1,996	2,575	4,571			1,452			798
07:00-07:59	3,129	3,692	6,821			2,174			1,261
08:00-08:59	2,619	2,494	5,112			3,074			1,984
09:00-09:59	2,302	2,139	4,441			4,152			3,232
10:00-10:59	2,327	2,125	4,452			4,703			4,085
11:00-11:59	2,585	2,348	4,932			5,050			4,693
12:00-12:59	2,564	2,606	5,170			5,062			4,862
13:00-13:59	2,622	2,854	5,476			4,968			4,700
14:00-14:59	3,017	2,882	5,898			4,714			4,550
15:00-15:59	3,408	3,152	6,560			4,404			4,442
16:00-16:59	4,343	3,762	8,104			4,667			4,662
17:00-17:59	3,763	3,401	7,163			4,355			4,250
18:00-18:59	2,411	2,204	4,615			3,696			3,596
19:00-19:59	1,619	1,663	3,282			3,015			2,902
20:00-20:59	1,201	1,614	2,815			2,726			2,265
21:00-21:59	887	1,452	2,339			2,544			1,739
22:00-22:59	692	772	1,464			1,695			1,006
23:00-23:59	417	363	779			1,036			537

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.2%	44%	26%
2.8%	34%	22%
5.1%	32%	17%
7.7%	32%	18%
5.7%	60%	39%
5.0%	94%	73%
5.0%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.6%	80%	77%
7.4%	67%	68%
9.1%	58%	58%
8.0%	61%	59%
5.2%	80%	78%
3.7%	92%	88%
3.2%	97%	80%
2.6%	109%	74%
1.6%	116%	69%
0.9%	133%	69%

*Trends from ATR 440105

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	190	255	249
01:00-01:59	280	298	289
02:00-02:59	248	254	223
03:00-03:59	380	274	173
04:00-04:59	830	366	213
05:00-05:59	1,910	655	414
06:00-06:59	3,453	1,097	603
07:00-07:59	5,154	1,642	953
08:00-08:59	3,863	2,323	1,499
09:00-09:59	3,355	3,137	2,442
10:00-10:59	3,364	3,554	3,086
11:00-11:59	3,727	3,816	3,546
12:00-12:59	3,906	3,825	3,674
13:00-13:59	4,137	3,754	3,551
14:00-14:59	4,457	3,562	3,438
15:00-15:59	4,957	3,328	3,357
16:00-16:59	6,123	3,526	3,523
17:00-17:59	5,412	3,291	3,211
18:00-18:59	3,487	2,793	2,717
19:00-19:59	2,480	2,278	2,193
20:00-20:59	2,127	2,060	1,711
21:00-21:59	1,767	1,922	1,314
22:00-22:59	1,106	1,281	760
23:00-23:59	589	783	406
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/In	30,617	0	0	30,617
Total Volume	336,500	50,072	43,546	430,118
				7%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

2018 Annual ATR Data	
Location	USH 41 BTWN STH 125 & STH 96 APPLETON
Site #	440105
Trend ID	2 - ATR

Segment	3a
Existing AADT for IHSDM	58,050

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	217	178	395	294	234	528	271	246	517
01:00-01:59	181	144	326	187	160	347	174	162	336
02:00-02:59	141	155	296	146	157	303	125	141	266
03:00-03:59	165	312	477	138	206	344	89	128	217
04:00-04:59	374	672	1,046	181	280	461	104	165	269
05:00-05:59	881	1,374	2,255	330	443	773	200	289	489
06:00-06:59	1,653	2,429	4,082	566	731	1,297	318	395	713
07:00-07:59	2,581	3,588	6,169	911	1,055	1,966	580	561	1,141
08:00-08:59	2,070	2,483	4,553	1,269	1,469	2,738	858	909	1,767
09:00-09:59	1,785	1,916	3,701	1,667	1,794	3,461	1,350	1,344	2,694
10:00-10:59	1,858	1,941	3,799	1,992	2,021	4,013	1,662	1,823	3,485
11:00-11:59	2,019	2,100	4,119	2,131	2,087	4,218	1,825	2,095	3,920
12:00-12:59	2,124	2,219	4,343	2,131	2,122	4,253	1,875	2,210	4,085
13:00-13:59	2,189	2,322	4,511	2,040	2,053	4,093	1,787	2,085	3,872
14:00-14:59	2,537	2,465	5,003	2,003	1,995	3,998	1,735	2,124	3,859
15:00-15:59	3,043	2,735	5,778	1,951	1,928	3,879	1,738	2,175	3,913
16:00-16:59	3,563	3,013	6,576	1,903	1,884	3,787	1,707	2,076	3,783
17:00-17:59	3,019	2,632	5,651	1,720	1,716	3,436	1,548	1,805	3,353
18:00-18:59	1,852	1,694	3,546	1,415	1,425	2,840	1,305	1,458	2,763
19:00-19:59	1,277	1,169	2,446	1,122	1,125	2,247	1,023	1,140	2,163
20:00-20:59	982	997	1,978	944	972	1,916	778	814	1,592
21:00-21:59	751	770	1,521	784	871	1,655	566	565	1,131
22:00-22:59	562	524	1,085	598	659	1,257	379	367	746
23:00-23:59	358	291	648	428	434	862	219	228	447

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.4%	44%	26%
3.0%	34%	22%
5.5%	32%	17%
8.3%	32%	18%
6.1%	60%	39%
5.0%	94%	73%
5.1%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.7%	80%	77%
7.8%	67%	68%
8.9%	58%	58%
7.6%	61%	59%
4.8%	80%	78%
3.3%	92%	88%
2.7%	97%	80%
2.0%	109%	74%
1.5%	116%	69%
0.9%	133%	69%

High Volume Hour Calculations

			D
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	309	412	404
01:00-01:59	254	271	262
02:00-02:59	231	237	208
03:00-03:59	373	269	170
04:00-04:59	817	360	210
05:00-05:59	1,762	604	382
06:00-06:59	3,189	1,013	557
07:00-07:59	4,820	1,536	891
08:00-08:59	3,557	2,139	1,380
09:00-09:59	2,892	2,704	2,105
10:00-10:59	2,968	3,135	2,723
11:00-11:59	3,218	3,295	3,062
12:00-12:59	3,393	3,323	3,191
13:00-13:59	3,524	3,198	3,025
14:00-14:59	3,908	3,123	3,015
15:00-15:59	4,514	3,030	3,057
16:00-16:59	5,138	2,959	2,955
17:00-17:59	4,415	2,684	2,620
18:00-18:59	2,770	2,219	2,159
19:00-19:59	1,911	1,755	1,690
20:00-20:59	1,545	1,497	1,244
21:00-21:59	1,188	1,293	884
22:00-22:59	848	982	583
23:00-23:59	506	673	349
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/In	0	0	0	0
Total Volume	290,250	42,712	37,125	370,088
				0%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

2018 Annual ATR Data	
Location	USH 41 BTWN STH 125 & STH 96 APPLETON
Site #	440105
Trend ID	2 - ATR

Segment	3b
Existing AADT for IHSDM	62,550

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	217	178	395	294	234	528	271	246	517
01:00-01:59	181	144	326	187	160	347	174	162	336
02:00-02:59	141	155	296	146	157	303	125	141	266
03:00-03:59	165	312	477	138	206	344	89	128	217
04:00-04:59	374	672	1,046	181	280	461	104	165	269
05:00-05:59	881	1,374	2,255	330	443	773	200	289	489
06:00-06:59	1,653	2,429	4,082	566	731	1,297	318	395	713
07:00-07:59	2,581	3,588	6,169	911	1,055	1,966	580	561	1,141
08:00-08:59	2,070	2,483	4,553	1,269	1,469	2,738	858	909	1,767
09:00-09:59	1,785	1,916	3,701	1,667	1,794	3,461	1,350	1,344	2,694
10:00-10:59	1,858	1,941	3,799	1,992	2,021	4,013	1,662	1,823	3,485
11:00-11:59	2,019	2,100	4,119	2,131	2,087	4,218	1,825	2,095	3,920
12:00-12:59	2,124	2,219	4,343	2,131	2,122	4,253	1,875	2,210	4,085
13:00-13:59	2,189	2,322	4,511	2,040	2,053	4,093	1,787	2,085	3,872
14:00-14:59	2,537	2,465	5,003	2,003	1,995	3,998	1,735	2,124	3,859
15:00-15:59	3,043	2,735	5,778	1,951	1,928	3,879	1,738	2,175	3,913
16:00-16:59	3,563	3,013	6,576	1,903	1,884	3,787	1,707	2,076	3,783
17:00-17:59	3,019	2,632	5,651	1,720	1,716	3,436	1,548	1,805	3,353
18:00-18:59	1,852	1,694	3,546	1,415	1,425	2,840	1,305	1,458	2,763
19:00-19:59	1,277	1,169	2,446	1,122	1,125	2,247	1,023	1,140	2,163
20:00-20:59	982	997	1,978	944	972	1,916	778	814	1,592
21:00-21:59	751	770	1,521	784	871	1,655	566	565	1,131
22:00-22:59	562	524	1,085	598	659	1,257	379	367	746
23:00-23:59	358	291	648	428	434	862	219	228	447

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.4%	44%	26%
3.0%	34%	22%
5.5%	32%	17%
8.3%	32%	18%
6.1%	60%	39%
5.0%	94%	73%
5.1%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.7%	80%	77%
7.8%	67%	68%
8.9%	58%	58%
7.6%	61%	59%
4.8%	80%	78%
3.3%	92%	88%
2.7%	97%	80%
2.0%	109%	74%
1.5%	116%	69%
0.9%	133%	69%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	333	444	435
01:00-01:59	274	292	283
02:00-02:59	249	255	224
03:00-03:59	402	290	183
04:00-04:59	880	388	226
05:00-05:59	1,898	651	412
06:00-06:59	3,436	1,092	600
07:00-07:59	5,193	1,655	960
08:00-08:59	3,833	2,305	1,487
09:00-09:59	3,116	2,913	2,268
10:00-10:59	3,198	3,378	2,934
11:00-11:59	3,468	3,551	3,300
12:00-12:59	3,656	3,580	3,439
13:00-13:59	3,797	3,446	3,259
14:00-14:59	4,211	3,366	3,249
15:00-15:59	4,864	3,265	3,294
16:00-16:59	5,536	3,188	3,185
17:00-17:59	4,757	2,892	2,823
18:00-18:59	2,985	2,391	2,326
19:00-19:59	2,059	1,892	1,821
20:00-20:59	1,665	1,613	1,340
21:00-21:59	1,281	1,393	952
22:00-22:59	914	1,058	628
23:00-23:59	546	726	376
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/In	0	0	0	0
Total Volume	312,750	46,023	40,003	398,777
				0%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

2018 Annual ATR Data	
Location	USH 41 BTWN STH 125 & STH 96 APPLETON
Site #	440105
Trend ID	2 - ATR

Segment	3c
Existing AADT for IHSDM	67,400

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	217	178	395	294	234	528	271	246	517
01:00-01:59	181	144	326	187	160	347	174	162	336
02:00-02:59	141	155	296	146	157	303	125	141	266
03:00-03:59	165	312	477	138	206	344	89	128	217
04:00-04:59	374	672	1,046	181	280	461	104	165	269
05:00-05:59	881	1,374	2,255	330	443	773	200	289	489
06:00-06:59	1,653	2,429	4,082	566	731	1,297	318	395	713
07:00-07:59	2,581	3,588	6,169	911	1,055	1,966	580	561	1,141
08:00-08:59	2,070	2,483	4,553	1,269	1,469	2,738	858	909	1,767
09:00-09:59	1,785	1,916	3,701	1,667	1,794	3,461	1,350	1,344	2,694
10:00-10:59	1,858	1,941	3,799	1,992	2,021	4,013	1,662	1,823	3,485
11:00-11:59	2,019	2,100	4,119	2,131	2,087	4,218	1,825	2,095	3,920
12:00-12:59	2,124	2,219	4,343	2,131	2,122	4,253	1,875	2,210	4,085
13:00-13:59	2,189	2,322	4,511	2,040	2,053	4,093	1,787	2,085	3,872
14:00-14:59	2,537	2,465	5,003	2,003	1,995	3,998	1,735	2,124	3,859
15:00-15:59	3,043	2,735	5,778	1,951	1,928	3,879	1,738	2,175	3,913
16:00-16:59	3,563	3,013	6,576	1,903	1,884	3,787	1,707	2,076	3,783
17:00-17:59	3,019	2,632	5,651	1,720	1,716	3,436	1,548	1,805	3,353
18:00-18:59	1,852	1,694	3,546	1,415	1,425	2,840	1,305	1,458	2,763
19:00-19:59	1,277	1,169	2,446	1,122	1,125	2,247	1,023	1,140	2,163
20:00-20:59	982	997	1,978	944	972	1,916	778	814	1,592
21:00-21:59	751	770	1,521	784	871	1,655	566	565	1,131
22:00-22:59	562	524	1,085	598	659	1,257	379	367	746
23:00-23:59	358	291	648	428	434	862	219	228	447

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.4%	44%	26%
3.0%	34%	22%
5.5%	32%	17%
8.3%	32%	18%
6.1%	60%	39%
5.0%	94%	73%
5.1%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.7%	80%	77%
7.8%	67%	68%
8.9%	58%	58%
7.6%	61%	59%
4.8%	80%	78%
3.3%	92%	88%
2.7%	97%	80%
2.0%	109%	74%
1.5%	116%	69%
0.9%	133%	69%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	358	479	469
01:00-01:59	295	315	305
02:00-02:59	268	275	241
03:00-03:59	433	312	197
04:00-04:59	948	418	244
05:00-05:59	2,045	701	444
06:00-06:59	3,703	1,176	647
07:00-07:59	5,596	1,783	1,035
08:00-08:59	4,130	2,484	1,603
09:00-09:59	3,357	3,139	2,444
10:00-10:59	3,446	3,640	3,161
11:00-11:59	3,737	3,826	3,556
12:00-12:59	3,939	3,858	3,705
13:00-13:59	4,092	3,713	3,512
14:00-14:59	4,538	3,626	3,500
15:00-15:59	5,241	3,519	3,549
16:00-16:59	5,965	3,435	3,431
17:00-17:59	5,126	3,117	3,041
18:00-18:59	3,216	2,576	2,506
19:00-19:59	2,219	2,038	1,962
20:00-20:59	1,794	1,738	1,444
21:00-21:59	1,380	1,501	1,026
22:00-22:59	984	1,140	677
23:00-23:59	588	782	405
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	0	0	0	0
Total Volume	337,000	49,592	43,105	429,697
				0%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

2018 Annual ATR Data	
Location	USH 41 BTWN STH 125 & STH 96 APPLETON
Site #	440105
Trend ID	2 - ATR

Segment	3d
Existing AADT for IHSDM	60,950

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	217	178	395	294	234	528	271	246	517
01:00-01:59	181	144	326	187	160	347	174	162	336
02:00-02:59	141	155	296	146	157	303	125	141	266
03:00-03:59	165	312	477	138	206	344	89	128	217
04:00-04:59	374	672	1,046	181	280	461	104	165	269
05:00-05:59	881	1,374	2,255	330	443	773	200	289	489
06:00-06:59	1,653	2,429	4,082	566	731	1,297	318	395	713
07:00-07:59	2,581	3,588	6,169	911	1,055	1,966	580	561	1,141
08:00-08:59	2,070	2,483	4,553	1,269	1,469	2,738	858	909	1,767
09:00-09:59	1,785	1,916	3,701	1,667	1,794	3,461	1,350	1,344	2,694
10:00-10:59	1,858	1,941	3,799	1,992	2,021	4,013	1,662	1,823	3,485
11:00-11:59	2,019	2,100	4,119	2,131	2,087	4,218	1,825	2,095	3,920
12:00-12:59	2,124	2,219	4,343	2,131	2,122	4,253	1,875	2,210	4,085
13:00-13:59	2,189	2,322	4,511	2,040	2,053	4,093	1,787	2,085	3,872
14:00-14:59	2,537	2,465	5,003	2,003	1,995	3,998	1,735	2,124	3,859
15:00-15:59	3,043	2,735	5,778	1,951	1,928	3,879	1,738	2,175	3,913
16:00-16:59	3,563	3,013	6,576	1,903	1,884	3,787	1,707	2,076	3,783
17:00-17:59	3,019	2,632	5,651	1,720	1,716	3,436	1,548	1,805	3,353
18:00-18:59	1,852	1,694	3,546	1,415	1,425	2,840	1,305	1,458	2,763
19:00-19:59	1,277	1,169	2,446	1,122	1,125	2,247	1,023	1,140	2,163
20:00-20:59	982	997	1,978	944	972	1,916	778	814	1,592
21:00-21:59	751	770	1,521	784	871	1,655	566	565	1,131
22:00-22:59	562	524	1,085	598	659	1,257	379	367	746
23:00-23:59	358	291	648	428	434	862	219	228	447

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.4%	44%	26%
3.0%	34%	22%
5.5%	32%	17%
8.3%	32%	18%
6.1%	60%	39%
5.0%	94%	73%
5.1%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.7%	80%	77%
7.8%	67%	68%
8.9%	58%	58%
7.6%	61%	59%
4.8%	80%	78%
3.3%	92%	88%
2.7%	97%	80%
2.0%	109%	74%
1.5%	116%	69%
0.9%	133%	69%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	324	433	424
01:00-01:59	267	285	276
02:00-02:59	243	249	218
03:00-03:59	391	282	178
04:00-04:59	858	378	221
05:00-05:59	1,850	634	401
06:00-06:59	3,348	1,064	585
07:00-07:59	5,060	1,613	936
08:00-08:59	3,735	2,246	1,449
09:00-09:59	3,036	2,839	2,210
10:00-10:59	3,116	3,292	2,859
11:00-11:59	3,379	3,460	3,215
12:00-12:59	3,562	3,489	3,351
13:00-13:59	3,700	3,357	3,176
14:00-14:59	4,103	3,279	3,165
15:00-15:59	4,740	3,182	3,210
16:00-16:59	5,394	3,106	3,103
17:00-17:59	4,636	2,818	2,750
18:00-18:59	2,908	2,330	2,266
19:00-19:59	2,007	1,843	1,774
20:00-20:59	1,623	1,572	1,306
21:00-21:59	1,248	1,358	928
22:00-22:59	890	1,031	612
23:00-23:59	532	707	367
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	0	0	0	0
Total Volume	304,750	44,846	38,980	388,576
				0%

Volume Condition: Existing (2018)

Segment	4a
Existing AADT for IHSDM	53,800

2018 Annual ATR Data	
Location	USH 41 BTWN STH 96 & STH 15
Site #	440165
Trend ID	3 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	202	166	**367**	286	214	**500**	262	227	**489**
01:00-01:59	171	131	**301**	179	145	**324**	162	147	**309**
02:00-02:59	126	140	**266**	130	143	**273**	113	127	**240**
03:00-03:59	142	292	**434**	120	201	**321**	79	126	**205**
04:00-04:59	325	664	**989**	160	278	**438**	95	162	**257**
05:00-05:59	766	1,310	**2,076**	288	431	**719**	175	287	**462**
06:00-06:59	1,418	2,360	**3,777**	508	715	**1,223**	291	388	**679**
07:00-07:59	2,240	3,447	**5,686**	823	1,106	**1,929**	536	578	**1,114**
08:00-08:59	1,862	2,491	**4,353**	1,170	1,565	**2,735**	817	939	**1,756**
09:00-09:59	1,640	2,024	**3,665**	1,531	2,056	**3,587**	1,285	1,491	**2,776**
10:00-10:59	1,784	2,069	**3,852**	1,911	2,356	**4,267**	1,553	2,125	**3,678**
11:00-11:59	1,999	2,201	**4,201**	2,146	2,392	**4,538**	1,812	2,356	**4,168**
12:00-12:59	2,154	2,270	**4,424**	2,231	2,371	**4,602**	1,954	2,445	**4,399**
13:00-13:59	2,275	2,307	**4,582**	2,187	2,251	**4,438**	1,950	2,248	**4,198**
14:00-14:59	2,627	2,376	**5,003**	2,230	2,105	**4,335**	1,964	2,211	**4,175**
15:00-15:59	3,075	2,629	**5,703**	2,205	2,008	**4,213**	1,965	2,225	**4,190**
16:00-16:59	3,566	2,886	**6,452**	2,152	1,921	**4,073**	1,935	2,099	**4,034**
17:00-17:59	3,101	2,577	**5,678**	1,952	1,730	**3,682**	1,761	1,754	**3,515**
18:00-18:59	1,998	1,689	**3,687**	1,644	1,435	**3,079**	1,491	1,356	**2,847**
19:00-19:59	1,480	1,102	**2,582**	1,329	1,080	**2,409**	1,101	1,067	**2,168**
20:00-20:59	1,170	866	**2,036**	1,129	850	**1,979**	818	754	**1,572**
21:00-21:59	889	656	**1,545**	937	749	**1,686**	576	522	**1,098**
22:00-22:59	583	463	**1,046**	644	586	**1,230**	373	328	**701**
23:00-23:59	351	266	**617**	424	401	**825**	208	214	**422**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	136%	133%
0.4%	107%	103%
0.4%	103%	90%
0.6%	74%	47%
1.3%	44%	26%
2.8%	35%	22%
5.2%	32%	18%
7.8%	34%	20%
5.9%	63%	40%
5.0%	98%	76%
5.3%	111%	95%
5.7%	108%	99%
6.0%	104%	99%
6.2%	97%	92%
6.8%	87%	83%
7.8%	74%	73%
8.8%	63%	63%
7.7%	65%	62%
5.0%	84%	77%
3.5%	93%	84%
2.8%	97%	77%
2.1%	109%	71%
1.4%	118%	67%
0.8%	134%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	269	367	359
01:00-01:59	221	238	227
02:00-02:59	195	200	176
03:00-03:59	319	236	150
04:00-04:59	725	321	189
05:00-05:59	1,523	528	339
06:00-06:59	2,772	897	498
07:00-07:59	4,172	1,415	817
08:00-08:59	3,194	2,007	1,288
09:00-09:59	2,689	2,632	2,037
10:00-10:59	2,827	3,131	2,699
11:00-11:59	3,082	3,330	3,058
12:00-12:59	3,246	3,377	3,228
13:00-13:59	3,362	3,256	3,080
14:00-14:59	3,671	3,181	3,063
15:00-15:59	4,185	3,091	3,074
16:00-16:59	4,734	2,988	2,960
17:00-17:59	4,166	2,702	2,579
18:00-18:59	2,705	2,259	2,089
19:00-19:59	1,894	1,768	1,591
20:00-20:59	1,494	1,452	1,153
21:00-21:59	1,134	1,237	806
22:00-22:59	767	902	514
23:00-23:59	453	605	310
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	0	0	0	0
Total Volume	269,000	42,120	36,284	347,404
				0%

Volume Condition: Existing (2018)

Segment	4b
Existing AADT for IHSDM	59,650

2018 Annual ATR Data	
Location	USH 41 BTWN STH 96 & STH 15
Site #	440165
Trend ID	3 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	202	166	**367**	286	214	**500**	262	227	**489**
01:00-01:59	171	131	**301**	179	145	**324**	162	147	**309**
02:00-02:59	126	140	**266**	130	143	**273**	113	127	**240**
03:00-03:59	142	292	**434**	120	201	**321**	79	126	**205**
04:00-04:59	325	664	**989**	160	278	**438**	95	162	**257**
05:00-05:59	766	1,310	**2,076**	288	431	**719**	175	287	**462**
06:00-06:59	1,418	2,360	**3,777**	508	715	**1,223**	291	388	**679**
07:00-07:59	2,240	3,447	**5,686**	823	1,106	**1,929**	536	578	**1,114**
08:00-08:59	1,862	2,491	**4,353**	1,170	1,565	**2,735**	817	939	**1,756**
09:00-09:59	1,640	2,024	**3,665**	1,531	2,056	**3,587**	1,285	1,491	**2,776**
10:00-10:59	1,784	2,069	**3,852**	1,911	2,356	**4,267**	1,553	2,125	**3,678**
11:00-11:59	1,999	2,201	**4,201**	2,146	2,392	**4,538**	1,812	2,356	**4,168**
12:00-12:59	2,154	2,270	**4,424**	2,231	2,371	**4,602**	1,954	2,445	**4,399**
13:00-13:59	2,275	2,307	**4,582**	2,187	2,251	**4,438**	1,950	2,248	**4,198**
14:00-14:59	2,627	2,376	**5,003**	2,230	2,105	**4,335**	1,964	2,211	**4,175**
15:00-15:59	3,075	2,629	**5,703**	2,205	2,008	**4,213**	1,965	2,225	**4,190**
16:00-16:59	3,566	2,886	**6,452**	2,152	1,921	**4,073**	1,935	2,099	**4,034**
17:00-17:59	3,101	2,577	**5,678**	1,952	1,730	**3,682**	1,761	1,754	**3,515**
18:00-18:59	1,998	1,689	**3,687**	1,644	1,435	**3,079**	1,491	1,356	**2,847**
19:00-19:59	1,480	1,102	**2,582**	1,329	1,080	**2,409**	1,101	1,067	**2,168**
20:00-20:59	1,170	866	**2,036**	1,129	850	**1,979**	818	754	**1,572**
21:00-21:59	889	656	**1,545**	937	749	**1,686**	576	522	**1,098**
22:00-22:59	583	463	**1,046**	644	586	**1,230**	373	328	**701**
23:00-23:59	351	266	**617**	424	401	**825**	208	214	**422**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	136%	133%
0.4%	107%	103%
0.4%	103%	90%
0.6%	74%	47%
1.3%	44%	26%
2.8%	35%	22%
5.2%	32%	18%
7.8%	34%	20%
5.9%	63%	40%
5.0%	98%	76%
5.3%	111%	95%
5.7%	108%	99%
6.0%	104%	99%
6.2%	97%	92%
6.8%	87%	83%
7.8%	74%	73%
8.8%	63%	63%
7.7%	65%	62%
5.0%	84%	77%
3.5%	93%	84%
2.8%	97%	77%
2.1%	109%	71%
1.4%	118%	67%
0.8%	134%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	299	407	398
01:00-01:59	245	264	251
02:00-02:59	217	222	195
03:00-03:59	353	261	167
04:00-04:59	804	356	209
05:00-05:59	1,689	585	376
06:00-06:59	3,073	995	552
07:00-07:59	4,626	1,569	906
08:00-08:59	3,542	2,225	1,429
09:00-09:59	2,981	2,918	2,258
10:00-10:59	3,134	3,471	2,992
11:00-11:59	3,417	3,692	3,391
12:00-12:59	3,599	3,744	3,579
13:00-13:59	3,728	3,610	3,415
14:00-14:59	4,070	3,527	3,396
15:00-15:59	4,640	3,427	3,409
16:00-16:59	5,249	3,313	3,282
17:00-17:59	4,619	2,995	2,859
18:00-18:59	3,000	2,505	2,316
19:00-19:59	2,100	1,960	1,764
20:00-20:59	1,656	1,610	1,279
21:00-21:59	1,257	1,372	893
22:00-22:59	851	1,001	570
23:00-23:59	502	671	343
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	0	0	0	0
Total Volume	298,250	46,700	40,230	385,179
				0%

2018 Annual ATR Data	
Location	USH 41 BTWN STH 96 & STH 15
Site #	440165
Trend ID	3 - ATR

Segment	4c
Existing AADT for IHSDM	65,450

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	202	166	**367**	286	214	**500**	262	227	**489**
01:00-01:59	171	131	**301**	179	145	**324**	162	147	**309**
02:00-02:59	126	140	**266**	130	143	**273**	113	127	**240**
03:00-03:59	142	292	**434**	120	201	**321**	79	126	**205**
04:00-04:59	325	664	**989**	160	278	**438**	95	162	**257**
05:00-05:59	766	1,310	**2,076**	288	431	**719**	175	287	**462**
06:00-06:59	1,418	2,360	**3,777**	508	715	**1,223**	291	388	**679**
07:00-07:59	2,240	3,447	**5,686**	823	1,106	**1,929**	536	578	**1,114**
08:00-08:59	1,862	2,491	**4,353**	1,170	1,565	**2,735**	817	939	**1,756**
09:00-09:59	1,640	2,024	**3,665**	1,531	2,056	**3,587**	1,285	1,491	**2,776**
10:00-10:59	1,784	2,069	**3,852**	1,911	2,356	**4,267**	1,553	2,125	**3,678**
11:00-11:59	1,999	2,201	**4,201**	2,146	2,392	**4,538**	1,812	2,356	**4,168**
12:00-12:59	2,154	2,270	**4,424**	2,231	2,371	**4,602**	1,954	2,445	**4,399**
13:00-13:59	2,275	2,307	**4,582**	2,187	2,251	**4,438**	1,950	2,248	**4,198**
14:00-14:59	2,627	2,376	**5,003**	2,230	2,105	**4,335**	1,964	2,211	**4,175**
15:00-15:59	3,075	2,629	**5,703**	2,205	2,008	**4,213**	1,965	2,225	**4,190**
16:00-16:59	3,566	2,886	**6,452**	2,152	1,921	**4,073**	1,935	2,099	**4,034**
17:00-17:59	3,101	2,577	**5,678**	1,952	1,730	**3,682**	1,761	1,754	**3,515**
18:00-18:59	1,998	1,689	**3,687**	1,644	1,435	**3,079**	1,491	1,356	**2,847**
19:00-19:59	1,480	1,102	**2,582**	1,329	1,080	**2,409**	1,101	1,067	**2,168**
20:00-20:59	1,170	866	**2,036**	1,129	850	**1,979**	818	754	**1,572**
21:00-21:59	889	656	**1,545**	937	749	**1,686**	576	522	**1,098**
22:00-22:59	583	463	**1,046**	644	586	**1,230**	373	328	**701**
23:00-23:59	351	266	**617**	424	401	**825**	208	214	**422**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	136%	133%
0.4%	107%	103%
0.4%	103%	90%
0.6%	74%	47%
1.3%	44%	26%
2.8%	35%	22%
5.2%	32%	18%
7.8%	34%	20%
5.9%	63%	40%
5.0%	98%	76%
5.3%	111%	95%
5.7%	108%	99%
6.0%	104%	99%
6.2%	97%	92%
6.8%	87%	83%
7.8%	74%	73%
8.8%	63%	63%
7.7%	65%	62%
5.0%	84%	77%
3.5%	93%	84%
2.8%	97%	77%
2.1%	109%	71%
1.4%	118%	67%
0.8%	134%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	328	446	436
01:00-01:59	269	289	276
02:00-02:59	238	244	214
03:00-03:59	388	287	183
04:00-04:59	882	391	229
05:00-05:59	1,853	642	412
06:00-06:59	3,372	1,092	606
07:00-07:59	5,076	1,722	994
08:00-08:59	3,886	2,441	1,567
09:00-09:59	3,271	3,202	2,478
10:00-10:59	3,439	3,809	3,283
11:00-11:59	3,750	4,051	3,720
12:00-12:59	3,949	4,108	3,927
13:00-13:59	4,090	3,961	3,747
14:00-14:59	4,466	3,869	3,727
15:00-15:59	5,091	3,761	3,740
16:00-16:59	5,759	3,636	3,601
17:00-17:59	5,068	3,287	3,138
18:00-18:59	3,291	2,748	2,541
19:00-19:59	2,304	2,150	1,935
20:00-20:59	1,817	1,766	1,403
21:00-21:59	1,379	1,505	980
22:00-22:59	933	1,098	626
23:00-23:59	551	736	377
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	0	0	0	0
Total Volume	327,250	51,240	44,141	422,632
				0%

Volume Condition: Existing (2018)

Segment	4d
Existing AADT for IHSDM	57,800

2018 Annual ATR Data	
Location	USH 41 BTWN STH 96 & STH 15
Site #	440165
Trend ID	3 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	202	166	**367**	286	214	**500**	262	227	**489**
01:00-01:59	171	131	**301**	179	145	**324**	162	147	**309**
02:00-02:59	126	140	**266**	130	143	**273**	113	127	**240**
03:00-03:59	142	292	**434**	120	201	**321**	79	126	**205**
04:00-04:59	325	664	**989**	160	278	**438**	95	162	**257**
05:00-05:59	766	1,310	**2,076**	288	431	**719**	175	287	**462**
06:00-06:59	1,418	2,360	**3,777**	508	715	**1,223**	291	388	**679**
07:00-07:59	2,240	3,447	**5,686**	823	1,106	**1,929**	536	578	**1,114**
08:00-08:59	1,862	2,491	**4,353**	1,170	1,565	**2,735**	817	939	**1,756**
09:00-09:59	1,640	2,024	**3,665**	1,531	2,056	**3,587**	1,285	1,491	**2,776**
10:00-10:59	1,784	2,069	**3,852**	1,911	2,356	**4,267**	1,553	2,125	**3,678**
11:00-11:59	1,999	2,201	**4,201**	2,146	2,392	**4,538**	1,812	2,356	**4,168**
12:00-12:59	2,154	2,270	**4,424**	2,231	2,371	**4,602**	1,954	2,445	**4,399**
13:00-13:59	2,275	2,307	**4,582**	2,187	2,251	**4,438**	1,950	2,248	**4,198**
14:00-14:59	2,627	2,376	**5,003**	2,230	2,105	**4,335**	1,964	2,211	**4,175**
15:00-15:59	3,075	2,629	**5,703**	2,205	2,008	**4,213**	1,965	2,225	**4,190**
16:00-16:59	3,566	2,886	**6,452**	2,152	1,921	**4,073**	1,935	2,099	**4,034**
17:00-17:59	3,101	2,577	**5,678**	1,952	1,730	**3,682**	1,761	1,754	**3,515**
18:00-18:59	1,998	1,689	**3,687**	1,644	1,435	**3,079**	1,491	1,356	**2,847**
19:00-19:59	1,480	1,102	**2,582**	1,329	1,080	**2,409**	1,101	1,067	**2,168**
20:00-20:59	1,170	866	**2,036**	1,129	850	**1,979**	818	754	**1,572**
21:00-21:59	889	656	**1,545**	937	749	**1,686**	576	522	**1,098**
22:00-22:59	583	463	**1,046**	644	586	**1,230**	373	328	**701**
23:00-23:59	351	266	**617**	424	401	**825**	208	214	**422**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	136%	133%
0.4%	107%	103%
0.4%	103%	90%
0.6%	74%	47%
1.3%	44%	26%
2.8%	35%	22%
5.2%	32%	18%
7.8%	34%	20%
5.9%	63%	40%
5.0%	98%	76%
5.3%	111%	95%
5.7%	108%	99%
6.0%	104%	99%
6.2%	97%	92%
6.8%	87%	83%
7.8%	74%	73%
8.8%	63%	63%
7.7%	65%	62%
5.0%	84%	77%
3.5%	93%	84%
2.8%	97%	77%
2.1%	109%	71%
1.4%	118%	67%
0.8%	134%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	289	394	385
01:00-01:59	238	255	244
02:00-02:59	210	215	189
03:00-03:59	342	253	162
04:00-04:59	779	345	203
05:00-05:59	1,637	567	364
06:00-06:59	2,978	964	535
07:00-07:59	4,482	1,521	878
08:00-08:59	3,432	2,156	1,384
09:00-09:59	2,889	2,828	2,188
10:00-10:59	3,037	3,364	2,899
11:00-11:59	3,311	3,577	3,286
12:00-12:59	3,487	3,628	3,468
13:00-13:59	3,612	3,498	3,309
14:00-14:59	3,944	3,417	3,291
15:00-15:59	4,496	3,321	3,303
16:00-16:59	5,086	3,211	3,180
17:00-17:59	4,476	2,902	2,771
18:00-18:59	2,907	2,427	2,244
19:00-19:59	2,035	1,899	1,709
20:00-20:59	1,605	1,560	1,239
21:00-21:59	1,218	1,329	866
22:00-22:59	824	970	553
23:00-23:59	487	650	333
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (5-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	25,431	0	0	25,431
Total Volume	289,000	45,251	38,982	373,233
				7%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

Segment	5a
Existing AADT for IHSDM	52,150

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	166			246			257
01:00-01:59	133	103	236			297			296
02:00-02:59	145	123	268			292			278
03:00-03:59	131	297	428			321			216
04:00-04:59	299	632	931			417			251
05:00-05:59	897	1,317	2,214			766			477
06:00-06:59	1,516	2,590	4,106			1,210			665
07:00-07:59	2,254	3,558	5,812			1,965			1,149
08:00-08:59	1,836	2,456	4,292			2,784			1,803
09:00-09:59	1,575	2,025	3,600			3,509			2,725
10:00-10:59	1,596	1,993	3,589			4,001			3,429
11:00-11:59	1,820	2,028	3,848			4,165			3,783
12:00-12:59	1,868	2,144	4,011			4,229			3,955
13:00-13:59	2,042	2,227	4,269			4,194			3,852
14:00-14:59	2,431	2,242	4,673			4,036			3,827
15:00-15:59	2,788	2,568	5,356			3,882			3,748
16:00-16:59	3,568	3,080	6,648			4,022			3,875
17:00-17:59	3,118	2,874	5,992			3,779			3,415
18:00-18:59	1,930	1,932	3,862			3,227			2,888
19:00-19:59	1,430	1,226	2,656			2,542			2,252
20:00-20:59	1,275	937	2,212			2,168			1,657
21:00-21:59	1,155	733	1,888			2,149			1,288
22:00-22:59	656	446	1,102			1,392			704
23:00-23:59	317	240	557			804			380

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
8.0%	34%	20%
5.9%	65%	42%
5.0%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.5%	105%	99%
5.9%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.1%	60%	58%
8.2%	63%	57%
5.3%	84%	75%
3.7%	96%	85%
3.0%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

*Trends from ATR 441218

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	119	176	184
01:00-01:59	169	213	212
02:00-02:59	192	210	199
03:00-03:59	307	230	155
04:00-04:59	668	299	180
05:00-05:59	1,588	549	342
06:00-06:59	2,945	868	477
07:00-07:59	4,168	1,409	824
08:00-08:59	3,078	1,997	1,293
09:00-09:59	2,582	2,517	1,955
10:00-10:59	2,574	2,870	2,459
11:00-11:59	2,760	2,987	2,714
12:00-12:59	2,877	3,033	2,837
13:00-13:59	3,062	3,008	2,763
14:00-14:59	3,351	2,894	2,745
15:00-15:59	3,841	2,785	2,689
16:00-16:59	4,768	2,884	2,779
17:00-17:59	4,298	2,710	2,449
18:00-18:59	2,770	2,315	2,071
19:00-19:59	1,905	1,823	1,615
20:00-20:59	1,586	1,555	1,188
21:00-21:59	1,354	1,541	924
22:00-22:59	790	998	505
23:00-23:59	400	577	272
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	66,169	0	0	66,169
Total Volume	260,750	40,448	33,832	335,031
				20%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

Segment	5b
Existing AADT for IHSDM	59,350

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	166			246			257
01:00-01:59	133	103	236			297			296
02:00-02:59	145	123	268			292			278
03:00-03:59	131	297	428			321			216
04:00-04:59	299	632	931			417			251
05:00-05:59	897	1,317	2,214			766			477
06:00-06:59	1,516	2,590	4,106			1,210			665
07:00-07:59	2,254	3,558	5,812			1,965			1,149
08:00-08:59	1,836	2,456	4,292			2,784			1,803
09:00-09:59	1,575	2,025	3,600			3,509			2,725
10:00-10:59	1,596	1,993	3,589			4,001			3,429
11:00-11:59	1,820	2,028	3,848			4,165			3,783
12:00-12:59	1,868	2,144	4,011			4,229			3,955
13:00-13:59	2,042	2,227	4,269			4,194			3,852
14:00-14:59	2,431	2,242	4,673			4,036			3,827
15:00-15:59	2,788	2,568	5,356			3,882			3,748
16:00-16:59	3,568	3,080	6,648			4,022			3,875
17:00-17:59	3,118	2,874	5,992			3,779			3,415
18:00-18:59	1,930	1,932	3,862			3,227			2,888
19:00-19:59	1,430	1,226	2,656			2,542			2,252
20:00-20:59	1,275	937	2,212			2,168			1,657
21:00-21:59	1,155	733	1,888			2,149			1,288
22:00-22:59	656	446	1,102			1,392			704
23:00-23:59	317	240	557			804			380

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
8.0%	34%	20%
5.9%	65%	42%
5.0%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.5%	105%	99%
5.9%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.1%	60%	58%
8.2%	63%	57%
5.3%	84%	75%
3.7%	96%	85%
3.0%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

*Trends from ATR 441218

High Volume Hour Calculations

D

Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	135	201	210
01:00-01:59	192	242	241
02:00-02:59	218	239	227
03:00-03:59	349	262	177
04:00-04:59	760	341	205
05:00-05:59	1,807	625	389
06:00-06:59	3,352	988	543
07:00-07:59	4,744	1,604	938
08:00-08:59	3,503	2,272	1,471
09:00-09:59	2,939	2,864	2,225
10:00-10:59	2,929	3,266	2,799
11:00-11:59	3,141	3,399	3,088
12:00-12:59	3,274	3,452	3,228
13:00-13:59	3,485	3,423	3,144
14:00-14:59	3,814	3,294	3,124
15:00-15:59	4,371	3,169	3,060
16:00-16:59	5,426	3,283	3,163
17:00-17:59	4,891	3,085	2,787
18:00-18:59	3,152	2,634	2,357
19:00-19:59	2,168	2,075	1,838
20:00-20:59	1,805	1,769	1,352
21:00-21:59	1,541	1,754	1,052
22:00-22:59	900	1,136	575
23:00-23:59	455	656	310
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	97,162	0	0	97,162
Total Volume	296,750	46,033	38,504	381,286
				25%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	5c
Existing AADT for IHSDM	68,350

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	166			246			257
01:00-01:59	133	103	236			297			296
02:00-02:59	145	123	268			292			278
03:00-03:59	131	297	428			321			216
04:00-04:59	299	632	931			417			251
05:00-05:59	897	1,317	2,214			766			477
06:00-06:59	1,516	2,590	4,106			1,210			665
07:00-07:59	2,254	3,558	5,812			1,965			1,149
08:00-08:59	1,836	2,456	4,292			2,784			1,803
09:00-09:59	1,575	2,025	3,600			3,509			2,725
10:00-10:59	1,596	1,993	3,589			4,001			3,429
11:00-11:59	1,820	2,028	3,848			4,165			3,783
12:00-12:59	1,868	2,144	4,011			4,229			3,955
13:00-13:59	2,042	2,227	4,269			4,194			3,852
14:00-14:59	2,431	2,242	4,673			4,036			3,827
15:00-15:59	2,788	2,568	5,356			3,882			3,748
16:00-16:59	3,568	3,080	6,648			4,022			3,875
17:00-17:59	3,118	2,874	5,992			3,779			3,415
18:00-18:59	1,930	1,932	3,862			3,227			2,888
19:00-19:59	1,430	1,226	2,656			2,542			2,252
20:00-20:59	1,275	937	2,212			2,168			1,657
21:00-21:59	1,155	733	1,888			2,149			1,288
22:00-22:59	656	446	1,102			1,392			704
23:00-23:59	317	240	557			804			380

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
8.0%	34%	20%
5.9%	65%	42%
5.0%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.5%	105%	99%
5.9%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.1%	60%	58%
8.2%	63%	57%
5.3%	84%	75%
3.7%	96%	85%
3.0%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

*Trends from ATR 441218

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	156	231	242
01:00-01:59	221	279	278
02:00-02:59	251	275	261
03:00-03:59	402	301	203
04:00-04:59	875	392	236
05:00-05:59	2,081	720	448
06:00-06:59	3,860	1,138	625
07:00-07:59	5,463	1,847	1,080
08:00-08:59	4,034	2,617	1,694
09:00-09:59	3,384	3,299	2,562
10:00-10:59	3,373	3,761	3,223
11:00-11:59	3,617	3,915	3,557
12:00-12:59	3,771	3,975	3,718
13:00-13:59	4,013	3,943	3,621
14:00-14:59	4,392	3,794	3,598
15:00-15:59	5,034	3,650	3,524
16:00-16:59	6,249	3,781	3,643
17:00-17:59	5,633	3,552	3,210
18:00-18:59	3,630	3,034	2,715
19:00-19:59	2,496	2,390	2,117
20:00-20:59	2,079	2,038	1,557
21:00-21:59	1,775	2,020	1,211
22:00-22:59	1,036	1,308	662
23:00-23:59	524	756	357
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	174,093	0	0	174,093
Total Volume	341,750	53,013	44,342	439,105
				40%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	5d
Existing AADT for IHSDM	63,600

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	166			246			257
01:00-01:59	133	103	236			297			296
02:00-02:59	145	123	268			292			278
03:00-03:59	131	297	428			321			216
04:00-04:59	299	632	931			417			251
05:00-05:59	897	1,317	2,214			766			477
06:00-06:59	1,516	2,590	4,106			1,210			665
07:00-07:59	2,254	3,558	5,812			1,965			1,149
08:00-08:59	1,836	2,456	4,292			2,784			1,803
09:00-09:59	1,575	2,025	3,600			3,509			2,725
10:00-10:59	1,596	1,993	3,589			4,001			3,429
11:00-11:59	1,820	2,028	3,848			4,165			3,783
12:00-12:59	1,868	2,144	4,011			4,229			3,955
13:00-13:59	2,042	2,227	4,269			4,194			3,852
14:00-14:59	2,431	2,242	4,673			4,036			3,827
15:00-15:59	2,788	2,568	5,356			3,882			3,748
16:00-16:59	3,568	3,080	6,648			4,022			3,875
17:00-17:59	3,118	2,874	5,992			3,779			3,415
18:00-18:59	1,930	1,932	3,862			3,227			2,888
19:00-19:59	1,430	1,226	2,656			2,542			2,252
20:00-20:59	1,275	937	2,212			2,168			1,657
21:00-21:59	1,155	733	1,888			2,149			1,288
22:00-22:59	656	446	1,102			1,392			704
23:00-23:59	317	240	557			804			380

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
8.0%	34%	20%
5.9%	65%	42%
5.0%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.5%	105%	99%
5.9%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.1%	60%	58%
8.2%	63%	57%
5.3%	84%	75%
3.7%	96%	85%
3.0%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

*Trends from ATR 441218

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	145	215	225
01:00-01:59	206	259	259
02:00-02:59	234	256	243
03:00-03:59	374	281	189
04:00-04:59	814	365	220
05:00-05:59	1,937	670	417
06:00-06:59	3,592	1,059	582
07:00-07:59	5,083	1,718	1,005
08:00-08:59	3,754	2,435	1,577
09:00-09:59	3,149	3,070	2,384
10:00-10:59	3,139	3,500	2,999
11:00-11:59	3,365	3,643	3,309
12:00-12:59	3,508	3,699	3,459
13:00-13:59	3,734	3,669	3,370
14:00-14:59	4,087	3,530	3,348
15:00-15:59	4,685	3,396	3,279
16:00-16:59	5,815	3,518	3,390
17:00-17:59	5,241	3,305	2,987
18:00-18:59	3,378	2,823	2,526
19:00-19:59	2,323	2,224	1,969
20:00-20:59	1,934	1,896	1,449
21:00-21:59	1,651	1,879	1,127
22:00-22:59	964	1,217	616
23:00-23:59	487	703	332
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	124,555	0	0	124,555
Total Volume	318,000	49,329	41,261	408,590
				30%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

Segment	6a
Existing AADT for IHSDM	58,300

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	178			263			275
01:00-01:59	136	103	238			300			299
02:00-02:59	142	125	267			291			277
03:00-03:59	134	281	414			311			209
04:00-04:59	375	617	992			445			268
05:00-05:59	1,078	1,263	2,341			809			504
06:00-06:59	1,768	2,523	4,291			1,265			695
07:00-07:59	2,669	3,407	6,076			2,054			1,201
08:00-08:59	1,970	2,440	4,409			2,860			1,852
09:00-09:59	1,710	2,049	3,759			3,664			2,845
10:00-10:59	1,707	2,072	3,779			4,213			3,610
11:00-11:59	1,910	2,126	4,036			4,368			3,968
12:00-12:59	2,019	2,248	4,267			4,498			4,207
13:00-13:59	2,144	2,270	4,414			4,336			3,983
14:00-14:59	2,473	2,437	4,910			4,241			4,022
15:00-15:59	2,868	2,813	5,680			4,118			3,976
16:00-16:59	3,562	3,342	6,903			4,176			4,024
17:00-17:59	3,266	3,144	6,410			4,043			3,653
18:00-18:59	2,006	2,124	4,129			3,451			3,088
19:00-19:59	1,489	1,346	2,835			2,713			2,403
20:00-20:59	1,311	1,077	2,388			2,341			1,789
21:00-21:59	1,176	828	2,004			2,281			1,368
22:00-22:59	661	500	1,161			1,466			742
23:00-23:59	313	267	580			837			395

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

*Trends from ATR 441218

High Volume Hour Calculations

D

Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	135	200	210
01:00-01:59	181	229	228
02:00-02:59	203	222	211
03:00-03:59	316	237	160
04:00-04:59	756	339	204
05:00-05:59	1,785	617	385
06:00-06:59	3,272	964	530
07:00-07:59	4,633	1,566	916
08:00-08:59	3,362	2,181	1,412
09:00-09:59	2,866	2,794	2,170
10:00-10:59	2,881	3,212	2,753
11:00-11:59	3,077	3,331	3,026
12:00-12:59	3,253	3,430	3,208
13:00-13:59	3,366	3,307	3,037
14:00-14:59	3,744	3,234	3,067
15:00-15:59	4,331	3,140	3,032
16:00-16:59	5,264	3,185	3,069
17:00-17:59	4,888	3,083	2,786
18:00-18:59	3,149	2,631	2,355
19:00-19:59	2,161	2,069	1,833
20:00-20:59	1,821	1,785	1,364
21:00-21:59	1,528	1,739	1,043
22:00-22:59	885	1,118	566
23:00-23:59	442	638	301
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	95,580	0	0	95,580
Total Volume	291,500	45,250	37,862	374,612
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

Segment	6b
Existing AADT for IHSDM	64,950

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	178			263			275
01:00-01:59	136	103	238			300			299
02:00-02:59	142	125	267			291			277
03:00-03:59	134	281	414			311			209
04:00-04:59	375	617	992			445			268
05:00-05:59	1,078	1,263	2,341			809			504
06:00-06:59	1,768	2,523	4,291			1,265			695
07:00-07:59	2,669	3,407	6,076			2,054			1,201
08:00-08:59	1,970	2,440	4,409			2,860			1,852
09:00-09:59	1,710	2,049	3,759			3,664			2,845
10:00-10:59	1,707	2,072	3,779			4,213			3,610
11:00-11:59	1,910	2,126	4,036			4,368			3,968
12:00-12:59	2,019	2,248	4,267			4,498			4,207
13:00-13:59	2,144	2,270	4,414			4,336			3,983
14:00-14:59	2,473	2,437	4,910			4,241			4,022
15:00-15:59	2,868	2,813	5,680			4,118			3,976
16:00-16:59	3,562	3,342	6,903			4,176			4,024
17:00-17:59	3,266	3,144	6,410			4,043			3,653
18:00-18:59	2,006	2,124	4,129			3,451			3,088
19:00-19:59	1,489	1,346	2,835			2,713			2,403
20:00-20:59	1,311	1,077	2,388			2,341			1,789
21:00-21:59	1,176	828	2,004			2,281			1,368
22:00-22:59	661	500	1,161			1,466			742
23:00-23:59	313	267	580			837			395

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

*Trends from ATR 441218

High Volume Hour Calculations

D

Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	151	223	233
01:00-01:59	202	255	254
02:00-02:59	226	247	235
03:00-03:59	352	264	178
04:00-04:59	843	378	227
05:00-05:59	1,988	687	428
06:00-06:59	3,645	1,074	590
07:00-07:59	5,162	1,745	1,021
08:00-08:59	3,746	2,430	1,573
09:00-09:59	3,193	3,112	2,417
10:00-10:59	3,210	3,579	3,067
11:00-11:59	3,428	3,711	3,371
12:00-12:59	3,624	3,821	3,574
13:00-13:59	3,750	3,684	3,384
14:00-14:59	4,171	3,603	3,417
15:00-15:59	4,825	3,498	3,377
16:00-16:59	5,864	3,548	3,419
17:00-17:59	5,445	3,434	3,103
18:00-18:59	3,508	2,931	2,623
19:00-19:59	2,408	2,305	2,042
20:00-20:59	2,029	1,988	1,520
21:00-21:59	1,702	1,937	1,162
22:00-22:59	986	1,245	630
23:00-23:59	492	711	336
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	127,338	0	0	127,338
Total Volume	324,750	50,411	42,181	417,342
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	6c
Existing AADT for IHSDM	71,550

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	178			263			275
01:00-01:59	136	103	238			300			299
02:00-02:59	142	125	267			291			277
03:00-03:59	134	281	414			311			209
04:00-04:59	375	617	992			445			268
05:00-05:59	1,078	1,263	2,341			809			504
06:00-06:59	1,768	2,523	4,291			1,265			695
07:00-07:59	2,669	3,407	6,076			2,054			1,201
08:00-08:59	1,970	2,440	4,409			2,860			1,852
09:00-09:59	1,710	2,049	3,759			3,664			2,845
10:00-10:59	1,707	2,072	3,779			4,213			3,610
11:00-11:59	1,910	2,126	4,036			4,368			3,968
12:00-12:59	2,019	2,248	4,267			4,498			4,207
13:00-13:59	2,144	2,270	4,414			4,336			3,983
14:00-14:59	2,473	2,437	4,910			4,241			4,022
15:00-15:59	2,868	2,813	5,680			4,118			3,976
16:00-16:59	3,562	3,342	6,903			4,176			4,024
17:00-17:59	3,266	3,144	6,410			4,043			3,653
18:00-18:59	2,006	2,124	4,129			3,451			3,088
19:00-19:59	1,489	1,346	2,835			2,713			2,403
20:00-20:59	1,311	1,077	2,388			2,341			1,789
21:00-21:59	1,176	828	2,004			2,281			1,368
22:00-22:59	661	500	1,161			1,466			742
23:00-23:59	313	267	580			837			395

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

*Trends from ATR 441218

High Volume Hour Calculations

D

Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	166	246	257
01:00-01:59	223	280	280
02:00-02:59	249	273	259
03:00-03:59	387	291	196
04:00-04:59	928	416	250
05:00-05:59	2,190	757	472
06:00-06:59	4,015	1,184	650
07:00-07:59	5,686	1,922	1,124
08:00-08:59	4,126	2,676	1,733
09:00-09:59	3,517	3,429	2,663
10:00-10:59	3,536	3,943	3,379
11:00-11:59	3,777	4,088	3,714
12:00-12:59	3,993	4,210	3,937
13:00-13:59	4,131	4,058	3,727
14:00-14:59	4,595	3,969	3,764
15:00-15:59	5,316	3,853	3,721
16:00-16:59	6,460	3,908	3,766
17:00-17:59	5,999	3,783	3,419
18:00-18:59	3,864	3,229	2,890
19:00-19:59	2,653	2,539	2,249
20:00-20:59	2,235	2,190	1,674
21:00-21:59	1,875	2,134	1,280
22:00-22:59	1,086	1,372	694
23:00-23:59	542	783	370
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	201,638	12,356	0	213,994
Total Volume	357,750	55,534	46,467	459,751
				47%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	6d
Existing AADT for IHSDM	64,750

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	178			263			275
01:00-01:59	136	103	238			300			299
02:00-02:59	142	125	267			291			277
03:00-03:59	134	281	414			311			209
04:00-04:59	375	617	992			445			268
05:00-05:59	1,078	1,263	2,341			809			504
06:00-06:59	1,768	2,523	4,291			1,265			695
07:00-07:59	2,669	3,407	6,076			2,054			1,201
08:00-08:59	1,970	2,440	4,409			2,860			1,852
09:00-09:59	1,710	2,049	3,759			3,664			2,845
10:00-10:59	1,707	2,072	3,779			4,213			3,610
11:00-11:59	1,910	2,126	4,036			4,368			3,968
12:00-12:59	2,019	2,248	4,267			4,498			4,207
13:00-13:59	2,144	2,270	4,414			4,336			3,983
14:00-14:59	2,473	2,437	4,910			4,241			4,022
15:00-15:59	2,868	2,813	5,680			4,118			3,976
16:00-16:59	3,562	3,342	6,903			4,176			4,024
17:00-17:59	3,266	3,144	6,410			4,043			3,653
18:00-18:59	2,006	2,124	4,129			3,451			3,088
19:00-19:59	1,489	1,346	2,835			2,713			2,403
20:00-20:59	1,311	1,077	2,388			2,341			1,789
21:00-21:59	1,176	828	2,004			2,281			1,368
22:00-22:59	661	500	1,161			1,466			742
23:00-23:59	313	267	580			837			395

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

*Trends from ATR 441218

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	150	223	233
01:00-01:59	202	254	253
02:00-02:59	226	247	234
03:00-03:59	351	263	177
04:00-04:59	840	377	227
05:00-05:59	1,982	685	427
06:00-06:59	3,634	1,071	588
07:00-07:59	5,146	1,739	1,018
08:00-08:59	3,734	2,422	1,568
09:00-09:59	3,183	3,103	2,410
10:00-10:59	3,200	3,568	3,058
11:00-11:59	3,418	3,699	3,361
12:00-12:59	3,613	3,809	3,563
13:00-13:59	3,738	3,673	3,373
14:00-14:59	4,158	3,591	3,406
15:00-15:59	4,810	3,487	3,367
16:00-16:59	5,846	3,537	3,408
17:00-17:59	5,429	3,424	3,094
18:00-18:59	3,497	2,922	2,615
19:00-19:59	2,401	2,298	2,035
20:00-20:59	2,022	1,982	1,515
21:00-21:59	1,697	1,931	1,158
22:00-22:59	983	1,241	628
23:00-23:59	491	709	335
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	126,946	0	0	126,946
Total Volume	323,750	50,256	42,051	416,057
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	7a
Existing AADT for IHSDM	57,250

2018 Annual ATR Data	
Location	USH 41 EAST OF CTH E APPLETON
Site #	441218
Trend ID	4 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	174	178	353	262	260	522	261	285	546
01:00-01:59	146	125	272	166	176	342	160	181	341
02:00-02:59	132	144	275	137	164	301	134	152	286
03:00-03:59	137	276	413	114	196	310	87	122	209
04:00-04:59	375	593	968	180	254	434	113	148	261
05:00-05:59	977	1,195	2,172	330	421	751	207	261	468
06:00-06:59	1,651	2,413	4,064	528	670	1,198	292	366	658
07:00-07:59	2,365	3,380	5,745	814	1,128	1,942	479	657	1,136
08:00-08:59	1,825	2,418	4,243	1,184	1,568	2,752	818	964	1,782
09:00-09:59	1,653	1,979	3,633	1,558	1,983	3,541	1,281	1,469	2,750
10:00-10:59	1,769	1,987	3,756	1,905	2,283	4,188	1,619	1,970	3,589
11:00-11:59	1,971	2,095	4,067	2,089	2,313	4,402	1,855	2,144	3,999
12:00-12:59	2,071	2,192	4,263	2,190	2,304	4,494	2,018	2,185	4,203
13:00-13:59	2,158	2,237	4,395	2,120	2,198	4,318	1,891	2,075	3,966
14:00-14:59	2,501	2,348	4,849	2,147	2,041	4,188	1,911	2,061	3,972
15:00-15:59	3,063	2,659	5,722	2,142	2,006	4,148	1,917	2,088	4,005
16:00-16:59	3,610	2,974	6,584	2,102	1,881	3,983	1,895	1,943	3,838
17:00-17:59	3,091	2,721	5,811	1,953	1,712	3,665	1,668	1,644	3,312
18:00-18:59	1,918	1,736	3,654	1,607	1,447	3,054	1,392	1,341	2,733
19:00-19:59	1,353	1,142	2,496	1,286	1,103	2,389	1,055	1,061	2,116
20:00-20:59	1,126	909	2,034	1,085	909	1,994	747	777	1,524
21:00-21:59	838	714	1,552	915	851	1,766	527	532	1,059
22:00-22:59	537	506	1,044	643	675	1,318	334	333	667
23:00-23:59	306	316	622	406	492	898	189	235	424

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	148%	155%
0.4%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
5.0%	97%	76%
5.1%	111%	96%
5.6%	108%	98%
5.8%	105%	99%
6.0%	98%	90%
6.6%	86%	82%
7.8%	72%	70%
9.0%	60%	58%
8.0%	63%	57%
5.0%	84%	75%
3.4%	96%	85%
2.8%	98%	75%
2.1%	114%	68%
1.4%	126%	64%
0.9%	144%	68%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	277	409	428
01:00-01:59	213	268	267
02:00-02:59	216	236	224
03:00-03:59	324	243	164
04:00-04:59	759	340	205
05:00-05:59	1,704	589	367
06:00-06:59	3,188	940	516
07:00-07:59	4,506	1,523	891
08:00-08:59	3,328	2,159	1,398
09:00-09:59	2,849	2,778	2,157
10:00-10:59	2,946	3,285	2,815
11:00-11:59	3,190	3,453	3,137
12:00-12:59	3,344	3,525	3,297
13:00-13:59	3,448	3,387	3,111
14:00-14:59	3,804	3,285	3,116
15:00-15:59	4,488	3,254	3,142
16:00-16:59	5,164	3,124	3,011
17:00-17:59	4,558	2,875	2,598
18:00-18:59	2,867	2,396	2,144
19:00-19:59	1,958	1,874	1,660
20:00-20:59	1,596	1,564	1,195
21:00-21:59	1,217	1,385	831
22:00-22:59	819	1,034	523
23:00-23:59	488	704	333
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	93,587	0	0	93,587
Total Volume	286,250	44,631	37,529	368,410
				25%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	7b
Existing AADT for IHSDM	64,150

2018 Annual ATR Data	
Location	USH 41 EAST OF CTH E APPLETON
Site #	441218
Trend ID	4 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	174	178	353	262	260	522	261	285	546
01:00-01:59	146	125	272	166	176	342	160	181	341
02:00-02:59	132	144	275	137	164	301	134	152	286
03:00-03:59	137	276	413	114	196	310	87	122	209
04:00-04:59	375	593	968	180	254	434	113	148	261
05:00-05:59	977	1,195	2,172	330	421	751	207	261	468
06:00-06:59	1,651	2,413	4,064	528	670	1,198	292	366	658
07:00-07:59	2,365	3,380	5,745	814	1,128	1,942	479	657	1,136
08:00-08:59	1,825	2,418	4,243	1,184	1,568	2,752	818	964	1,782
09:00-09:59	1,653	1,979	3,633	1,558	1,983	3,541	1,281	1,469	2,750
10:00-10:59	1,769	1,987	3,756	1,905	2,283	4,188	1,619	1,970	3,589
11:00-11:59	1,971	2,095	4,067	2,089	2,313	4,402	1,855	2,144	3,999
12:00-12:59	2,071	2,192	4,263	2,190	2,304	4,494	2,018	2,185	4,203
13:00-13:59	2,158	2,237	4,395	2,120	2,198	4,318	1,891	2,075	3,966
14:00-14:59	2,501	2,348	4,849	2,147	2,041	4,188	1,911	2,061	3,972
15:00-15:59	3,063	2,659	5,722	2,142	2,006	4,148	1,917	2,088	4,005
16:00-16:59	3,610	2,974	6,584	2,102	1,881	3,983	1,895	1,943	3,838
17:00-17:59	3,091	2,721	5,811	1,953	1,712	3,665	1,668	1,644	3,312
18:00-18:59	1,918	1,736	3,654	1,607	1,447	3,054	1,392	1,341	2,733
19:00-19:59	1,353	1,142	2,496	1,286	1,103	2,389	1,055	1,061	2,116
20:00-20:59	1,126	909	2,034	1,085	909	1,994	747	777	1,524
21:00-21:59	838	714	1,552	915	851	1,766	527	532	1,059
22:00-22:59	537	506	1,044	643	675	1,318	334	333	667
23:00-23:59	306	316	622	406	492	898	189	235	424

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	148%	155%
0.4%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
5.0%	97%	76%
5.1%	111%	96%
5.6%	108%	98%
5.8%	105%	99%
6.0%	98%	90%
6.6%	86%	82%
7.8%	72%	70%
9.0%	60%	58%
8.0%	63%	57%
5.0%	84%	75%
3.4%	96%	85%
2.8%	98%	75%
2.1%	114%	68%
1.4%	126%	64%
0.9%	144%	68%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	310	459	480
01:00-01:59	239	301	300
02:00-02:59	242	265	251
03:00-03:59	363	272	184
04:00-04:59	851	381	229
05:00-05:59	1,909	660	411
06:00-06:59	3,572	1,053	578
07:00-07:59	5,049	1,707	998
08:00-08:59	3,729	2,419	1,566
09:00-09:59	3,193	3,112	2,417
10:00-10:59	3,301	3,681	3,155
11:00-11:59	3,574	3,869	3,515
12:00-12:59	3,747	3,950	3,694
13:00-13:59	3,863	3,795	3,486
14:00-14:59	4,262	3,681	3,491
15:00-15:59	5,029	3,646	3,520
16:00-16:59	5,787	3,501	3,373
17:00-17:59	5,108	3,221	2,911
18:00-18:59	3,212	2,684	2,402
19:00-19:59	2,193	2,100	1,860
20:00-20:59	1,788	1,753	1,340
21:00-21:59	1,364	1,552	931
22:00-22:59	917	1,158	586
23:00-23:59	547	789	373
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	126,176	0	0	126,176
Total Volume	320,750	50,010	42,052	412,812
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	7c
Existing AADT for IHSDM	73,650

2018 Annual ATR Data	
Location	USH 41 EAST OF CTH E APPLETON
Site #	441218
Trend ID	4 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	174	178	353	262	260	522	261	285	546
01:00-01:59	146	125	272	166	176	342	160	181	341
02:00-02:59	132	144	275	137	164	301	134	152	286
03:00-03:59	137	276	413	114	196	310	87	122	209
04:00-04:59	375	593	968	180	254	434	113	148	261
05:00-05:59	977	1,195	2,172	330	421	751	207	261	468
06:00-06:59	1,651	2,413	4,064	528	670	1,198	292	366	658
07:00-07:59	2,365	3,380	5,745	814	1,128	1,942	479	657	1,136
08:00-08:59	1,825	2,418	4,243	1,184	1,568	2,752	818	964	1,782
09:00-09:59	1,653	1,979	3,633	1,558	1,983	3,541	1,281	1,469	2,750
10:00-10:59	1,769	1,987	3,756	1,905	2,283	4,188	1,619	1,970	3,589
11:00-11:59	1,971	2,095	4,067	2,089	2,313	4,402	1,855	2,144	3,999
12:00-12:59	2,071	2,192	4,263	2,190	2,304	4,494	2,018	2,185	4,203
13:00-13:59	2,158	2,237	4,395	2,120	2,198	4,318	1,891	2,075	3,966
14:00-14:59	2,501	2,348	4,849	2,147	2,041	4,188	1,911	2,061	3,972
15:00-15:59	3,063	2,659	5,722	2,142	2,006	4,148	1,917	2,088	4,005
16:00-16:59	3,610	2,974	6,584	2,102	1,881	3,983	1,895	1,943	3,838
17:00-17:59	3,091	2,721	5,811	1,953	1,712	3,665	1,668	1,644	3,312
18:00-18:59	1,918	1,736	3,654	1,607	1,447	3,054	1,392	1,341	2,733
19:00-19:59	1,353	1,142	2,496	1,286	1,103	2,389	1,055	1,061	2,116
20:00-20:59	1,126	909	2,034	1,085	909	1,994	747	777	1,524
21:00-21:59	838	714	1,552	915	851	1,766	527	532	1,059
22:00-22:59	537	506	1,044	643	675	1,318	334	333	667
23:00-23:59	306	316	622	406	492	898	189	235	424

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	148%	155%
0.4%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
5.0%	97%	76%
5.1%	111%	96%
5.6%	108%	98%
5.8%	105%	99%
6.0%	98%	90%
6.6%	86%	82%
7.8%	72%	70%
9.0%	60%	58%
8.0%	63%	57%
5.0%	84%	75%
3.4%	96%	85%
2.8%	98%	75%
2.1%	114%	68%
1.4%	126%	64%
0.9%	144%	68%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	356	527	551
01:00-01:59	274	345	344
02:00-02:59	278	304	289
03:00-03:59	417	313	211
04:00-04:59	977	438	263
05:00-05:59	2,192	758	472
06:00-06:59	4,101	1,209	664
07:00-07:59	5,797	1,960	1,146
08:00-08:59	4,281	2,777	1,798
09:00-09:59	3,666	3,573	2,775
10:00-10:59	3,790	4,226	3,622
11:00-11:59	4,104	4,442	4,035
12:00-12:59	4,301	4,535	4,241
13:00-13:59	4,435	4,357	4,002
14:00-14:59	4,893	4,226	4,008
15:00-15:59	5,774	4,186	4,041
16:00-16:59	6,644	4,019	3,873
17:00-17:59	5,864	3,698	3,342
18:00-18:59	3,688	3,082	2,758
19:00-19:59	2,518	2,411	2,135
20:00-20:59	2,053	2,012	1,538
21:00-21:59	1,566	1,782	1,069
22:00-22:59	1,053	1,330	673
23:00-23:59	628	906	428
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	250,975	29,992	20,328	301,296
Total Volume	368,250	57,416	48,280	473,946
				64%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	7d
Existing AADT for IHSDM	60,650

2018 Annual ATR Data	
Location	USH 41 EAST OF CTH E APPLETON
Site #	441218
Trend ID	4 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	174	178	353	262	260	522	261	285	546
01:00-01:59	146	125	272	166	176	342	160	181	341
02:00-02:59	132	144	275	137	164	301	134	152	286
03:00-03:59	137	276	413	114	196	310	87	122	209
04:00-04:59	375	593	968	180	254	434	113	148	261
05:00-05:59	977	1,195	2,172	330	421	751	207	261	468
06:00-06:59	1,651	2,413	4,064	528	670	1,198	292	366	658
07:00-07:59	2,365	3,380	5,745	814	1,128	1,942	479	657	1,136
08:00-08:59	1,825	2,418	4,243	1,184	1,568	2,752	818	964	1,782
09:00-09:59	1,653	1,979	3,633	1,558	1,983	3,541	1,281	1,469	2,750
10:00-10:59	1,769	1,987	3,756	1,905	2,283	4,188	1,619	1,970	3,589
11:00-11:59	1,971	2,095	4,067	2,089	2,313	4,402	1,855	2,144	3,999
12:00-12:59	2,071	2,192	4,263	2,190	2,304	4,494	2,018	2,185	4,203
13:00-13:59	2,158	2,237	4,395	2,120	2,198	4,318	1,891	2,075	3,966
14:00-14:59	2,501	2,348	4,849	2,147	2,041	4,188	1,911	2,061	3,972
15:00-15:59	3,063	2,659	5,722	2,142	2,006	4,148	1,917	2,088	4,005
16:00-16:59	3,610	2,974	6,584	2,102	1,881	3,983	1,895	1,943	3,838
17:00-17:59	3,091	2,721	5,811	1,953	1,712	3,665	1,668	1,644	3,312
18:00-18:59	1,918	1,736	3,654	1,607	1,447	3,054	1,392	1,341	2,733
19:00-19:59	1,353	1,142	2,496	1,286	1,103	2,389	1,055	1,061	2,116
20:00-20:59	1,126	909	2,034	1,085	909	1,994	747	777	1,524
21:00-21:59	838	714	1,552	915	851	1,766	527	532	1,059
22:00-22:59	537	506	1,044	643	675	1,318	334	333	667
23:00-23:59	306	316	622	406	492	898	189	235	424

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	148%	155%
0.4%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
5.0%	97%	76%
5.1%	111%	96%
5.6%	108%	98%
5.8%	105%	99%
6.0%	98%	90%
6.6%	86%	82%
7.8%	72%	70%
9.0%	60%	58%
8.0%	63%	57%
5.0%	84%	75%
3.4%	96%	85%
2.8%	98%	75%
2.1%	114%	68%
1.4%	126%	64%
0.9%	144%	68%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	293	434	454
01:00-01:59	226	284	283
02:00-02:59	229	250	238
03:00-03:59	343	258	174
04:00-04:59	804	361	217
05:00-05:59	1,805	624	389
06:00-06:59	3,377	996	547
07:00-07:59	4,774	1,614	944
08:00-08:59	3,526	2,287	1,481
09:00-09:59	3,019	2,943	2,285
10:00-10:59	3,121	3,480	2,982
11:00-11:59	3,379	3,658	3,323
12:00-12:59	3,542	3,734	3,493
13:00-13:59	3,652	3,588	3,296
14:00-14:59	4,029	3,480	3,301
15:00-15:59	4,755	3,447	3,328
16:00-16:59	5,471	3,310	3,189
17:00-17:59	4,829	3,046	2,752
18:00-18:59	3,037	2,538	2,271
19:00-19:59	2,074	1,985	1,758
20:00-20:59	1,691	1,657	1,266
21:00-21:59	1,290	1,468	880
22:00-22:59	867	1,095	554
23:00-23:59	517	746	352
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	119,292	0	0	119,292
Total Volume	303,250	47,282	39,758	390,290
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	8a
Existing AADT for IHSDM	49,450

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	338	253	259	512	266	281	547
01:00-01:59	133	121	254	161	174	335	173	181	354
02:00-02:59	128	140	268	146	162	308	149	150	299
03:00-03:59	147	239	387	119	176	295	93	119	212
04:00-04:59	406	475	881	192	219	411	119	131	250
05:00-05:59	1,120	1,081	2,201	373	379	752	244	230	474
06:00-06:59	1,883	2,125	4,008	536	613	1,149	313	347	660
07:00-07:59	2,547	2,891	5,439	792	947	1,739	484	527	1,011
08:00-08:59	1,796	1,974	3,771	1,102	1,269	2,371	768	778	1,546
09:00-09:59	1,590	1,646	3,236	1,458	1,569	3,027	1,195	1,166	2,361
10:00-10:59	1,624	1,650	3,274	1,758	1,784	3,542	1,427	1,548	2,975
11:00-11:59	1,762	1,749	3,511	1,901	1,856	3,757	1,595	1,772	3,367
12:00-12:59	1,852	1,833	3,684	1,938	1,854	3,792	1,690	1,822	3,512
13:00-13:59	1,950	1,882	3,832	1,871	1,790	3,661	1,631	1,746	3,377
14:00-14:59	2,212	2,070	4,281	1,863	1,703	3,566	1,637	1,775	3,412
15:00-15:59	2,618	2,408	5,026	1,861	1,693	3,554	1,636	1,838	3,474
16:00-16:59	3,120	2,856	5,976	1,844	1,604	3,448	1,632	1,748	3,380
17:00-17:59	2,702	2,555	5,256	1,733	1,494	3,227	1,464	1,542	3,006
18:00-18:59	1,631	1,506	3,137	1,398	1,293	2,691	1,214	1,275	2,489
19:00-19:59	1,147	954	2,100	1,117	979	2,096	946	980	1,926
20:00-20:59	942	785	1,727	957	834	1,791	714	724	1,438
21:00-21:59	731	629	1,360	823	820	1,643	522	506	1,028
22:00-22:59	488	483	971	611	689	1,300	325	334	659
23:00-23:59	294	310	604	393	488	881	189	261	450

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	255	386	413
01:00-01:59	192	253	267
02:00-02:59	202	232	226
03:00-03:59	292	223	160
04:00-04:59	665	310	189
05:00-05:59	1,661	568	358
06:00-06:59	3,025	867	498
07:00-07:59	4,105	1,312	763
08:00-08:59	2,846	1,789	1,167
09:00-09:59	2,442	2,285	1,782
10:00-10:59	2,471	2,673	2,245
11:00-11:59	2,650	2,835	2,541
12:00-12:59	2,781	2,862	2,651
13:00-13:59	2,892	2,763	2,549
14:00-14:59	3,231	2,691	2,575
15:00-15:59	3,793	2,682	2,622
16:00-16:59	4,510	2,602	2,551
17:00-17:59	3,967	2,435	2,269
18:00-18:59	2,368	2,031	1,878
19:00-19:59	1,585	1,582	1,454
20:00-20:59	1,303	1,352	1,085
21:00-21:59	1,026	1,240	776
22:00-22:59	733	981	497
23:00-23:59	456	665	340
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	43,075	0	0	43,075
Total Volume	247,250	37,621	31,854	316,725
				14%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	8b
Existing AADT for IHSDM	57,100

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	338	253	259	512	266	281	547
01:00-01:59	133	121	254	161	174	335	173	181	354
02:00-02:59	128	140	268	146	162	308	149	150	299
03:00-03:59	147	239	387	119	176	295	93	119	212
04:00-04:59	406	475	881	192	219	411	119	131	250
05:00-05:59	1,120	1,081	2,201	373	379	752	244	230	474
06:00-06:59	1,883	2,125	4,008	536	613	1,149	313	347	660
07:00-07:59	2,547	2,891	5,439	792	947	1,739	484	527	1,011
08:00-08:59	1,796	1,974	3,771	1,102	1,269	2,371	768	778	1,546
09:00-09:59	1,590	1,646	3,236	1,458	1,569	3,027	1,195	1,166	2,361
10:00-10:59	1,624	1,650	3,274	1,758	1,784	3,542	1,427	1,548	2,975
11:00-11:59	1,762	1,749	3,511	1,901	1,856	3,757	1,595	1,772	3,367
12:00-12:59	1,852	1,833	3,684	1,938	1,854	3,792	1,690	1,822	3,512
13:00-13:59	1,950	1,882	3,832	1,871	1,790	3,661	1,631	1,746	3,377
14:00-14:59	2,212	2,070	4,281	1,863	1,703	3,566	1,637	1,775	3,412
15:00-15:59	2,618	2,408	5,026	1,861	1,693	3,554	1,636	1,838	3,474
16:00-16:59	3,120	2,856	5,976	1,844	1,604	3,448	1,632	1,748	3,380
17:00-17:59	2,702	2,555	5,256	1,733	1,494	3,227	1,464	1,542	3,006
18:00-18:59	1,631	1,506	3,137	1,398	1,293	2,691	1,214	1,275	2,489
19:00-19:59	1,147	954	2,100	1,117	979	2,096	946	980	1,926
20:00-20:59	942	785	1,727	957	834	1,791	714	724	1,438
21:00-21:59	731	629	1,360	823	820	1,643	522	506	1,028
22:00-22:59	488	483	971	611	689	1,300	325	334	659
23:00-23:59	294	310	604	393	488	881	189	261	450

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	295	446	477
01:00-01:59	222	292	309
02:00-02:59	234	268	261
03:00-03:59	337	257	185
04:00-04:59	768	358	218
05:00-05:59	1,918	655	413
06:00-06:59	3,493	1,001	575
07:00-07:59	4,740	1,515	881
08:00-08:59	3,286	2,066	1,347
09:00-09:59	2,820	2,638	2,058
10:00-10:59	2,853	3,087	2,593
11:00-11:59	3,060	3,274	2,934
12:00-12:59	3,211	3,305	3,061
13:00-13:59	3,339	3,190	2,943
14:00-14:59	3,731	3,108	2,973
15:00-15:59	4,380	3,097	3,027
16:00-16:59	5,208	3,005	2,946
17:00-17:59	4,581	2,812	2,620
18:00-18:59	2,734	2,345	2,169
19:00-19:59	1,830	1,827	1,678
20:00-20:59	1,505	1,561	1,253
21:00-21:59	1,185	1,432	896
22:00-22:59	846	1,133	574
23:00-23:59	526	768	392
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	94,542	0	0	94,542
Total Volume	285,500	43,441	36,782	365,723
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

Segment	8c
Existing AADT for IHSDM	64,050

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	338	253	259	512	266	281	547
01:00-01:59	133	121	254	161	174	335	173	181	354
02:00-02:59	128	140	268	146	162	308	149	150	299
03:00-03:59	147	239	387	119	176	295	93	119	212
04:00-04:59	406	475	881	192	219	411	119	131	250
05:00-05:59	1,120	1,081	2,201	373	379	752	244	230	474
06:00-06:59	1,883	2,125	4,008	536	613	1,149	313	347	660
07:00-07:59	2,547	2,891	5,439	792	947	1,739	484	527	1,011
08:00-08:59	1,796	1,974	3,771	1,102	1,269	2,371	768	778	1,546
09:00-09:59	1,590	1,646	3,236	1,458	1,569	3,027	1,195	1,166	2,361
10:00-10:59	1,624	1,650	3,274	1,758	1,784	3,542	1,427	1,548	2,975
11:00-11:59	1,762	1,749	3,511	1,901	1,856	3,757	1,595	1,772	3,367
12:00-12:59	1,852	1,833	3,684	1,938	1,854	3,792	1,690	1,822	3,512
13:00-13:59	1,950	1,882	3,832	1,871	1,790	3,661	1,631	1,746	3,377
14:00-14:59	2,212	2,070	4,281	1,863	1,703	3,566	1,637	1,775	3,412
15:00-15:59	2,618	2,408	5,026	1,861	1,693	3,554	1,636	1,838	3,474
16:00-16:59	3,120	2,856	5,976	1,844	1,604	3,448	1,632	1,748	3,380
17:00-17:59	2,702	2,555	5,256	1,733	1,494	3,227	1,464	1,542	3,006
18:00-18:59	1,631	1,506	3,137	1,398	1,293	2,691	1,214	1,275	2,489
19:00-19:59	1,147	954	2,100	1,117	979	2,096	946	980	1,926
20:00-20:59	942	785	1,727	957	834	1,791	714	724	1,438
21:00-21:59	731	629	1,360	823	820	1,643	522	506	1,028
22:00-22:59	488	483	971	611	689	1,300	325	334	659
23:00-23:59	294	310	604	393	488	881	189	261	450

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	331	501	535
01:00-01:59	249	327	346
02:00-02:59	262	301	292
03:00-03:59	378	288	207
04:00-04:59	861	402	244
05:00-05:59	2,151	735	463
06:00-06:59	3,918	1,123	645
07:00-07:59	5,316	1,700	988
08:00-08:59	3,686	2,318	1,511
09:00-09:59	3,163	2,959	2,308
10:00-10:59	3,200	3,462	2,908
11:00-11:59	3,432	3,673	3,291
12:00-12:59	3,601	3,707	3,433
13:00-13:59	3,746	3,579	3,301
14:00-14:59	4,185	3,486	3,335
15:00-15:59	4,913	3,474	3,396
16:00-16:59	5,842	3,371	3,304
17:00-17:59	5,138	3,155	2,938
18:00-18:59	3,067	2,631	2,433
19:00-19:59	2,053	2,049	1,883
20:00-20:59	1,688	1,751	1,406
21:00-21:59	1,329	1,606	1,005
22:00-22:59	949	1,271	644
23:00-23:59	590	861	440
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	126,975	0	0	126,975
Total Volume	320,250	48,729	41,259	410,238
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	8d
Existing AADT for IHSDM	59,050

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	338	253	259	512	266	281	547
01:00-01:59	133	121	254	161	174	335	173	181	354
02:00-02:59	128	140	268	146	162	308	149	150	299
03:00-03:59	147	239	387	119	176	295	93	119	212
04:00-04:59	406	475	881	192	219	411	119	131	250
05:00-05:59	1,120	1,081	2,201	373	379	752	244	230	474
06:00-06:59	1,883	2,125	4,008	536	613	1,149	313	347	660
07:00-07:59	2,547	2,891	5,439	792	947	1,739	484	527	1,011
08:00-08:59	1,796	1,974	3,771	1,102	1,269	2,371	768	778	1,546
09:00-09:59	1,590	1,646	3,236	1,458	1,569	3,027	1,195	1,166	2,361
10:00-10:59	1,624	1,650	3,274	1,758	1,784	3,542	1,427	1,548	2,975
11:00-11:59	1,762	1,749	3,511	1,901	1,856	3,757	1,595	1,772	3,367
12:00-12:59	1,852	1,833	3,684	1,938	1,854	3,792	1,690	1,822	3,512
13:00-13:59	1,950	1,882	3,832	1,871	1,790	3,661	1,631	1,746	3,377
14:00-14:59	2,212	2,070	4,281	1,863	1,703	3,566	1,637	1,775	3,412
15:00-15:59	2,618	2,408	5,026	1,861	1,693	3,554	1,636	1,838	3,474
16:00-16:59	3,120	2,856	5,976	1,844	1,604	3,448	1,632	1,748	3,380
17:00-17:59	2,702	2,555	5,256	1,733	1,494	3,227	1,464	1,542	3,006
18:00-18:59	1,631	1,506	3,137	1,398	1,293	2,691	1,214	1,275	2,489
19:00-19:59	1,147	954	2,100	1,117	979	2,096	946	980	1,926
20:00-20:59	942	785	1,727	957	834	1,791	714	724	1,438
21:00-21:59	731	629	1,360	823	820	1,643	522	506	1,028
22:00-22:59	488	483	971	611	689	1,300	325	334	659
23:00-23:59	294	310	604	393	488	881	189	261	450

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	305	461	493
01:00-01:59	229	302	319
02:00-02:59	242	278	269
03:00-03:59	348	266	191
04:00-04:59	794	370	225
05:00-05:59	1,983	678	427
06:00-06:59	3,612	1,036	595
07:00-07:59	4,901	1,567	911
08:00-08:59	3,398	2,137	1,393
09:00-09:59	2,916	2,728	2,128
10:00-10:59	2,950	3,192	2,681
11:00-11:59	3,164	3,386	3,034
12:00-12:59	3,320	3,417	3,165
13:00-13:59	3,454	3,299	3,043
14:00-14:59	3,859	3,214	3,075
15:00-15:59	4,529	3,203	3,131
16:00-16:59	5,386	3,107	3,046
17:00-17:59	4,737	2,908	2,709
18:00-18:59	2,827	2,425	2,243
19:00-19:59	1,893	1,889	1,736
20:00-20:59	1,556	1,614	1,296
21:00-21:59	1,225	1,481	926
22:00-22:59	875	1,172	594
23:00-23:59	544	794	406
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	97,770	0	0	97,770
Total Volume	295,250	44,925	38,038	378,213
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH N & STH 55
Site #	440161
Trend ID	4 - COV

Segment	9a
Existing AADT for IHSDM	54,300

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	166	174	174			263			281
01:00-01:59	130	107	237			312			330
02:00-02:59	115	112	227			261			253
03:00-03:59	147	208	355			271			195
04:00-04:59	355	391	746			348			212
05:00-05:59	1,148	933	2,081			711			448
06:00-06:59	1,861	1,993	3,854			1,105			635
07:00-07:59	2,541	2,568	5,109			1,633			950
08:00-08:59	1,713	1,838	3,551			2,233			1,456
09:00-09:59	1,486	1,486	2,972			2,780			2,168
10:00-10:59	1,498	1,436	2,934			3,174			2,666
11:00-11:59	1,604	1,577	3,181			3,404			3,051
12:00-12:59	1,607	1,632	3,239			3,333			3,087
13:00-13:59	1,655	1,628	3,282			3,136			2,892
14:00-14:59	1,853	1,896	3,749			3,122			2,987
15:00-15:59	2,199	2,231	4,430			3,133			3,062
16:00-16:59	2,762	2,830	5,592			3,226			3,163
17:00-17:59	2,490	2,608	5,098			3,129			2,915
18:00-18:59	1,479	1,498	2,977			2,553			2,362
19:00-19:59	1,064	959	2,023			2,019			1,855
20:00-20:59	927	866	1,793			1,859			1,493
21:00-21:59	765	709	1,474			1,781			1,114
22:00-22:59	442	480	922			1,234			626
23:00-23:59	262	268	530			773			395

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.2%	47%	28%
3.4%	34%	22%
6.4%	29%	16%
8.4%	32%	19%
5.9%	63%	41%
4.9%	94%	73%
4.8%	108%	91%
5.3%	107%	96%
5.4%	103%	95%
5.4%	96%	88%
6.2%	83%	80%
7.3%	71%	69%
9.2%	58%	57%
8.4%	61%	57%
4.9%	86%	79%
3.3%	100%	92%
3.0%	104%	83%
2.4%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

*Trends from ATR 440103

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	156	236	252
01:00-01:59	213	280	296
02:00-02:59	204	234	227
03:00-03:59	318	243	175
04:00-04:59	669	312	190
05:00-05:59	1,867	638	402
06:00-06:59	3,458	991	569
07:00-07:59	4,583	1,465	852
08:00-08:59	3,186	2,003	1,306
09:00-09:59	2,666	2,494	1,945
10:00-10:59	2,632	2,847	2,392
11:00-11:59	2,854	3,054	2,737
12:00-12:59	2,905	2,990	2,770
13:00-13:59	2,944	2,813	2,595
14:00-14:59	3,363	2,801	2,680
15:00-15:59	3,974	2,810	2,747
16:00-16:59	5,017	2,895	2,837
17:00-17:59	4,573	2,808	2,615
18:00-18:59	2,670	2,291	2,119
19:00-19:59	1,815	1,811	1,664
20:00-20:59	1,608	1,668	1,339
21:00-21:59	1,322	1,598	1,000
22:00-22:59	827	1,107	561
23:00-23:59	475	694	354
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	70,866	0	0	70,866
Total Volume	271,500	41,084	34,625	347,209
				20%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	9b
Existing AADT for IHSDM	56,250

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH N & STH 55
Site #	440161
Trend ID	4 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	166	174	174			263			281
01:00-01:59	130	107	237			312			330
02:00-02:59	115	112	227			261			253
03:00-03:59	147	208	355			271			195
04:00-04:59	355	391	746			348			212
05:00-05:59	1,148	933	2,081			711			448
06:00-06:59	1,861	1,993	3,854			1,105			635
07:00-07:59	2,541	2,568	5,109			1,633			950
08:00-08:59	1,713	1,838	3,551			2,233			1,456
09:00-09:59	1,486	1,486	2,972			2,780			2,168
10:00-10:59	1,498	1,436	2,934			3,174			2,666
11:00-11:59	1,604	1,577	3,181			3,404			3,051
12:00-12:59	1,607	1,632	3,239			3,333			3,087
13:00-13:59	1,655	1,628	3,282			3,136			2,892
14:00-14:59	1,853	1,896	3,749			3,122			2,987
15:00-15:59	2,199	2,231	4,430			3,133			3,062
16:00-16:59	2,762	2,830	5,592			3,226			3,163
17:00-17:59	2,490	2,608	5,098			3,129			2,915
18:00-18:59	1,479	1,498	2,977			2,553			2,362
19:00-19:59	1,064	959	2,023			2,019			1,855
20:00-20:59	927	866	1,793			1,859			1,493
21:00-21:59	765	709	1,474			1,781			1,114
22:00-22:59	442	480	922			1,234			626
23:00-23:59	262	268	530			773			395

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.2%	47%	28%
3.4%	34%	22%
6.4%	29%	16%
8.4%	32%	19%
5.9%	63%	41%
4.9%	94%	73%
4.8%	108%	91%
5.3%	107%	96%
5.4%	103%	95%
5.4%	96%	88%
6.2%	83%	80%
7.3%	71%	69%
9.2%	58%	57%
8.4%	61%	57%
4.9%	86%	79%
3.3%	100%	92%
3.0%	104%	83%
2.4%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

*Trends from ATR 440103

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	162	245	261
01:00-01:59	220	290	306
02:00-02:59	211	242	235
03:00-03:59	330	252	181
04:00-04:59	693	323	197
05:00-05:59	1,934	661	416
06:00-06:59	3,582	1,027	590
07:00-07:59	4,748	1,518	883
08:00-08:59	3,300	2,075	1,353
09:00-09:59	2,762	2,583	2,015
10:00-10:59	2,726	2,950	2,477
11:00-11:59	2,956	3,163	2,835
12:00-12:59	3,010	3,098	2,869
13:00-13:59	3,050	2,914	2,688
14:00-14:59	3,484	2,902	2,776
15:00-15:59	4,117	2,911	2,846
16:00-16:59	5,197	2,998	2,939
17:00-17:59	4,737	2,908	2,709
18:00-18:59	2,766	2,373	2,195
19:00-19:59	1,880	1,876	1,724
20:00-20:59	1,666	1,728	1,387
21:00-21:59	1,370	1,655	1,036
22:00-22:59	857	1,147	582
23:00-23:59	493	719	367
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	93,996	0	0	93,996
Total Volume	281,250	42,560	35,869	359,678
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	9c
Existing AADT for IHSDM	58,800

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH N & STH 55
Site #	440161
Trend ID	4 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	166	174	174			263			281
01:00-01:59	130	107	237			312			330
02:00-02:59	115	112	227			261			253
03:00-03:59	147	208	355			271			195
04:00-04:59	355	391	746			348			212
05:00-05:59	1,148	933	2,081			711			448
06:00-06:59	1,861	1,993	3,854			1,105			635
07:00-07:59	2,541	2,568	5,109			1,633			950
08:00-08:59	1,713	1,838	3,551			2,233			1,456
09:00-09:59	1,486	1,486	2,972			2,780			2,168
10:00-10:59	1,498	1,436	2,934			3,174			2,666
11:00-11:59	1,604	1,577	3,181			3,404			3,051
12:00-12:59	1,607	1,632	3,239			3,333			3,087
13:00-13:59	1,655	1,628	3,282			3,136			2,892
14:00-14:59	1,853	1,896	3,749			3,122			2,987
15:00-15:59	2,199	2,231	4,430			3,133			3,062
16:00-16:59	2,762	2,830	5,592			3,226			3,163
17:00-17:59	2,490	2,608	5,098			3,129			2,915
18:00-18:59	1,479	1,498	2,977			2,553			2,362
19:00-19:59	1,064	959	2,023			2,019			1,855
20:00-20:59	927	866	1,793			1,859			1,493
21:00-21:59	765	709	1,474			1,781			1,114
22:00-22:59	442	480	922			1,234			626
23:00-23:59	262	268	530			773			395

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.2%	47%	28%
3.4%	34%	22%
6.4%	29%	16%
8.4%	32%	19%
5.9%	63%	41%
4.9%	94%	73%
4.8%	108%	91%
5.3%	107%	96%
5.4%	103%	95%
5.4%	96%	88%
6.2%	83%	80%
7.3%	71%	69%
9.2%	58%	57%
8.4%	61%	57%
4.9%	86%	79%
3.3%	100%	92%
3.0%	104%	83%
2.4%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

*Trends from ATR 440103

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	169	256	273
01:00-01:59	230	303	320
02:00-02:59	221	253	246
03:00-03:59	345	263	189
04:00-04:59	724	338	205
05:00-05:59	2,021	691	435
06:00-06:59	3,744	1,073	617
07:00-07:59	4,963	1,587	923
08:00-08:59	3,450	2,169	1,414
09:00-09:59	2,887	2,700	2,106
10:00-10:59	2,850	3,083	2,590
11:00-11:59	3,090	3,307	2,964
12:00-12:59	3,146	3,238	2,999
13:00-13:59	3,188	3,046	2,810
14:00-14:59	3,642	3,033	2,902
15:00-15:59	4,304	3,043	2,975
16:00-16:59	5,433	3,134	3,073
17:00-17:59	4,952	3,040	2,832
18:00-18:59	2,892	2,481	2,294
19:00-19:59	1,965	1,961	1,802
20:00-20:59	1,741	1,806	1,450
21:00-21:59	1,432	1,730	1,083
22:00-22:59	896	1,199	608
23:00-23:59	515	751	384
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	98,257	0	0	98,257
Total Volume	294,000	44,489	37,495	375,984
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	9d
Existing AADT for IHSDM	55,300

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH N & STH 55
Site #	440161
Trend ID	4 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	166	174	174			263			281
01:00-01:59	130	107	237			312			330
02:00-02:59	115	112	227			261			253
03:00-03:59	147	208	355			271			195
04:00-04:59	355	391	746			348			212
05:00-05:59	1,148	933	2,081			711			448
06:00-06:59	1,861	1,993	3,854			1,105			635
07:00-07:59	2,541	2,568	5,109			1,633			950
08:00-08:59	1,713	1,838	3,551			2,233			1,456
09:00-09:59	1,486	1,486	2,972			2,780			2,168
10:00-10:59	1,498	1,436	2,934			3,174			2,666
11:00-11:59	1,604	1,577	3,181			3,404			3,051
12:00-12:59	1,607	1,632	3,239			3,333			3,087
13:00-13:59	1,655	1,628	3,282			3,136			2,892
14:00-14:59	1,853	1,896	3,749			3,122			2,987
15:00-15:59	2,199	2,231	4,430			3,133			3,062
16:00-16:59	2,762	2,830	5,592			3,226			3,163
17:00-17:59	2,490	2,608	5,098			3,129			2,915
18:00-18:59	1,479	1,498	2,977			2,553			2,362
19:00-19:59	1,064	959	2,023			2,019			1,855
20:00-20:59	927	866	1,793			1,859			1,493
21:00-21:59	765	709	1,474			1,781			1,114
22:00-22:59	442	480	922			1,234			626
23:00-23:59	262	268	530			773			395

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.2%	47%	28%
3.4%	34%	22%
6.4%	29%	16%
8.4%	32%	19%
5.9%	63%	41%
4.9%	94%	73%
4.8%	108%	91%
5.3%	107%	96%
5.4%	103%	95%
5.4%	96%	88%
6.2%	83%	80%
7.3%	71%	69%
9.2%	58%	57%
8.4%	61%	57%
4.9%	86%	79%
3.3%	100%	92%
3.0%	104%	83%
2.4%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

*Trends from ATR 440103

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	159	241	257
01:00-01:59	217	285	301
02:00-02:59	207	238	231
03:00-03:59	324	248	178
04:00-04:59	681	318	193
05:00-05:59	1,901	650	409
06:00-06:59	3,521	1,010	580
07:00-07:59	4,667	1,492	868
08:00-08:59	3,244	2,040	1,330
09:00-09:59	2,715	2,540	1,981
10:00-10:59	2,680	2,900	2,436
11:00-11:59	2,906	3,110	2,787
12:00-12:59	2,959	3,046	2,821
13:00-13:59	2,999	2,865	2,643
14:00-14:59	3,425	2,853	2,729
15:00-15:59	4,048	2,862	2,798
16:00-16:59	5,109	2,948	2,890
17:00-17:59	4,657	2,859	2,663
18:00-18:59	2,720	2,333	2,158
19:00-19:59	1,848	1,845	1,695
20:00-20:59	1,638	1,699	1,364
21:00-21:59	1,347	1,627	1,018
22:00-22:59	842	1,128	572
23:00-23:59	484	707	361
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	92,409	0	0	92,409
Total Volume	276,500	41,841	35,263	353,604
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

Volume Condition: Existing (2018)

DRAFT

April 2019

Segment	10a
Existing AADT for IHSDM	51,650

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440160
Trend ID	5 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	137	139	139			223			240
01:00-01:59	102	107	209			296			306
02:00-02:59	99	113	212			248			235
03:00-03:59	143	143	286			224			168
04:00-04:59	313	357	670			328			206
05:00-05:59	870	888	1,758			579			355
06:00-06:59	1,680	1,832	3,512			997			569
07:00-07:59	2,364	2,507	4,870			1,572			903
08:00-08:59	1,579	1,656	3,235			2,113			1,384
09:00-09:59	1,421	1,353	2,774			2,701			2,167
10:00-10:59	1,258	1,279	2,537			2,838			2,559
11:00-11:59	1,346	1,340	2,686			3,017			2,838
12:00-12:59	1,363	1,423	2,786			3,044			2,911
13:00-13:59	1,408	1,530	2,938			2,990			2,875
14:00-14:59	1,571	1,776	3,347			2,972			2,930
15:00-15:59	1,952	1,988	3,940			2,931			2,922
16:00-16:59	2,415	2,599	5,014			2,930			2,868
17:00-17:59	2,255	2,367	4,622			2,906			2,644
18:00-18:59	1,231	1,261	2,491			2,261			2,073
19:00-19:59	874	833	1,707			1,809			1,660
20:00-20:59	768	690	1,458			1,620			1,244
21:00-21:59	575	562	1,136			1,486			857
22:00-22:59	367	372	739			1,062			508
23:00-23:59	214	213	427			660			315

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.5%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.6%	28%	16%
9.1%	32%	19%
6.0%	65%	43%
5.2%	97%	78%
4.7%	112%	101%
5.0%	112%	106%
5.2%	109%	104%
5.5%	102%	98%
6.3%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.6%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.7%	111%	85%
2.1%	131%	75%
1.4%	144%	69%
0.8%	155%	74%

*Trends from ATR 050001

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	134	215	232
01:00-01:59	202	285	296
02:00-02:59	204	240	227
03:00-03:59	276	216	162
04:00-04:59	647	317	199
05:00-05:59	1,697	559	342
06:00-06:59	3,391	963	549
07:00-07:59	4,703	1,518	872
08:00-08:59	3,123	2,040	1,337
09:00-09:59	2,679	2,608	2,093
10:00-10:59	2,450	2,740	2,472
11:00-11:59	2,594	2,914	2,741
12:00-12:59	2,690	2,939	2,811
13:00-13:59	2,837	2,887	2,776
14:00-14:59	3,232	2,870	2,830
15:00-15:59	3,804	2,831	2,822
16:00-16:59	4,841	2,829	2,769
17:00-17:59	4,463	2,806	2,553
18:00-18:59	2,405	2,183	2,002
19:00-19:59	1,648	1,747	1,603
20:00-20:59	1,408	1,564	1,201
21:00-21:59	1,097	1,435	828
22:00-22:59	713	1,025	491
23:00-23:59	412	637	304
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	70,034	0	0	70,034
Total Volume	258,250	40,367	34,510	333,128
				21%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	10b
Existing AADT for IHSDM	53,200

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440160
Trend ID	5 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	137	139	139			223			240
01:00-01:59	102	107	209			296			306
02:00-02:59	99	113	212			248			235
03:00-03:59	143	143	286			224			168
04:00-04:59	313	357	670			328			206
05:00-05:59	870	888	1,758			579			355
06:00-06:59	1,680	1,832	3,512			997			569
07:00-07:59	2,364	2,507	4,870			1,572			903
08:00-08:59	1,579	1,656	3,235			2,113			1,384
09:00-09:59	1,421	1,353	2,774			2,701			2,167
10:00-10:59	1,258	1,279	2,537			2,838			2,559
11:00-11:59	1,346	1,340	2,686			3,017			2,838
12:00-12:59	1,363	1,423	2,786			3,044			2,911
13:00-13:59	1,408	1,530	2,938			2,990			2,875
14:00-14:59	1,571	1,776	3,347			2,972			2,930
15:00-15:59	1,952	1,988	3,940			2,931			2,922
16:00-16:59	2,415	2,599	5,014			2,930			2,868
17:00-17:59	2,255	2,367	4,622			2,906			2,644
18:00-18:59	1,231	1,261	2,491			2,261			2,073
19:00-19:59	874	833	1,707			1,809			1,660
20:00-20:59	768	690	1,458			1,620			1,244
21:00-21:59	575	562	1,136			1,486			857
22:00-22:59	367	372	739			1,062			508
23:00-23:59	214	213	427			660			315

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.5%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.6%	28%	16%
9.1%	32%	19%
6.0%	65%	43%
5.2%	97%	78%
4.7%	112%	101%
5.0%	112%	106%
5.2%	109%	104%
5.5%	102%	98%
6.3%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.6%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.7%	111%	85%
2.1%	131%	75%
1.4%	144%	69%
0.8%	155%	74%

*Trends from ATR 050001

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	138	221	239
01:00-01:59	208	294	305
02:00-02:59	210	247	234
03:00-03:59	284	223	167
04:00-04:59	666	326	205
05:00-05:59	1,748	575	353
06:00-06:59	3,493	992	566
07:00-07:59	4,844	1,563	898
08:00-08:59	3,217	2,101	1,377
09:00-09:59	2,759	2,686	2,156
10:00-10:59	2,523	2,823	2,546
11:00-11:59	2,672	3,001	2,823
12:00-12:59	2,771	3,027	2,895
13:00-13:59	2,922	2,974	2,860
14:00-14:59	3,329	2,956	2,915
15:00-15:59	3,918	2,916	2,907
16:00-16:59	4,987	2,914	2,852
17:00-17:59	4,597	2,890	2,629
18:00-18:59	2,478	2,249	2,062
19:00-19:59	1,698	1,799	1,651
20:00-20:59	1,450	1,611	1,237
21:00-21:59	1,130	1,478	853
22:00-22:59	735	1,056	505
23:00-23:59	424	656	313
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	72,136	0	0	72,136
Total Volume	266,000	41,579	35,546	343,125
				21%

I-41 IHSDM Analysis: High-Volume Hours Development

Volume Condition: Existing (2018)

DRAFT

April 2019

Segment	10c
Existing AADT for IHSDM	54,450

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440160
Trend ID	5 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	137	139	139			223			240
01:00-01:59	102	107	209			296			306
02:00-02:59	99	113	212			248			235
03:00-03:59	143	143	286			224			168
04:00-04:59	313	357	670			328			206
05:00-05:59	870	888	1,758			579			355
06:00-06:59	1,680	1,832	3,512			997			569
07:00-07:59	2,364	2,507	4,870			1,572			903
08:00-08:59	1,579	1,656	3,235			2,113			1,384
09:00-09:59	1,421	1,353	2,774			2,701			2,167
10:00-10:59	1,258	1,279	2,537			2,838			2,559
11:00-11:59	1,346	1,340	2,686			3,017			2,838
12:00-12:59	1,363	1,423	2,786			3,044			2,911
13:00-13:59	1,408	1,530	2,938			2,990			2,875
14:00-14:59	1,571	1,776	3,347			2,972			2,930
15:00-15:59	1,952	1,988	3,940			2,931			2,922
16:00-16:59	2,415	2,599	5,014			2,930			2,868
17:00-17:59	2,255	2,367	4,622			2,906			2,644
18:00-18:59	1,231	1,261	2,491			2,261			2,073
19:00-19:59	874	833	1,707			1,809			1,660
20:00-20:59	768	690	1,458			1,620			1,244
21:00-21:59	575	562	1,136			1,486			857
22:00-22:59	367	372	739			1,062			508
23:00-23:59	214	213	427			660			315

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.5%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.6%	28%	16%
9.1%	32%	19%
6.0%	65%	43%
5.2%	97%	78%
4.7%	112%	101%
5.0%	112%	106%
5.2%	109%	104%
5.5%	102%	98%
6.3%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.6%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.7%	111%	85%
2.1%	131%	75%
1.4%	144%	69%
0.8%	155%	74%

*Trends from ATR 050001

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	141	227	244
01:00-01:59	213	301	312
02:00-02:59	215	252	240
03:00-03:59	291	228	171
04:00-04:59	682	334	209
05:00-05:59	1,789	589	361
06:00-06:59	3,575	1,015	579
07:00-07:59	4,958	1,600	920
08:00-08:59	3,293	2,151	1,409
09:00-09:59	2,824	2,749	2,206
10:00-10:59	2,583	2,889	2,606
11:00-11:59	2,734	3,071	2,889
12:00-12:59	2,836	3,098	2,963
13:00-13:59	2,990	3,044	2,927
14:00-14:59	3,407	3,025	2,983
15:00-15:59	4,010	2,984	2,975
16:00-16:59	5,104	2,983	2,919
17:00-17:59	4,705	2,958	2,691
18:00-18:59	2,536	2,301	2,111
19:00-19:59	1,738	1,841	1,690
20:00-20:59	1,484	1,649	1,266
21:00-21:59	1,156	1,513	873
22:00-22:59	752	1,081	517
23:00-23:59	434	672	320
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	93,883	0	0	93,883
Total Volume	272,250	42,556	36,381	351,187
				27%

I-41 IHSDM Analysis: High-Volume Hours Development

Volume Condition: Existing (2018)

DRAFT

April 2019

Segment	10d
Existing AADT for IHSDM	51,650

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440160
Trend ID	5 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	137	139	139			223			240
01:00-01:59	102	107	209			296			306
02:00-02:59	99	113	212			248			235
03:00-03:59	143	143	286			224			168
04:00-04:59	313	357	670			328			206
05:00-05:59	870	888	1,758			579			355
06:00-06:59	1,680	1,832	3,512			997			569
07:00-07:59	2,364	2,507	4,870			1,572			903
08:00-08:59	1,579	1,656	3,235			2,113			1,384
09:00-09:59	1,421	1,353	2,774			2,701			2,167
10:00-10:59	1,258	1,279	2,537			2,838			2,559
11:00-11:59	1,346	1,340	2,686			3,017			2,838
12:00-12:59	1,363	1,423	2,786			3,044			2,911
13:00-13:59	1,408	1,530	2,938			2,990			2,875
14:00-14:59	1,571	1,776	3,347			2,972			2,930
15:00-15:59	1,952	1,988	3,940			2,931			2,922
16:00-16:59	2,415	2,599	5,014			2,930			2,868
17:00-17:59	2,255	2,367	4,622			2,906			2,644
18:00-18:59	1,231	1,261	2,491			2,261			2,073
19:00-19:59	874	833	1,707			1,809			1,660
20:00-20:59	768	690	1,458			1,620			1,244
21:00-21:59	575	562	1,136			1,486			857
22:00-22:59	367	372	739			1,062			508
23:00-23:59	214	213	427			660			315

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.5%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.6%	28%	16%
9.1%	32%	19%
6.0%	65%	43%
5.2%	97%	78%
4.7%	112%	101%
5.0%	112%	106%
5.2%	109%	104%
5.5%	102%	98%
6.3%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.6%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.7%	111%	85%
2.1%	131%	75%
1.4%	144%	69%
0.8%	155%	74%

*Trends from ATR 050001

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	134	215	232
01:00-01:59	202	285	296
02:00-02:59	204	240	227
03:00-03:59	276	216	162
04:00-04:59	647	317	199
05:00-05:59	1,697	559	342
06:00-06:59	3,391	963	549
07:00-07:59	4,703	1,518	872
08:00-08:59	3,123	2,040	1,337
09:00-09:59	2,679	2,608	2,093
10:00-10:59	2,450	2,740	2,472
11:00-11:59	2,594	2,914	2,741
12:00-12:59	2,690	2,939	2,811
13:00-13:59	2,837	2,887	2,776
14:00-14:59	3,232	2,870	2,830
15:00-15:59	3,804	2,831	2,822
16:00-16:59	4,841	2,829	2,769
17:00-17:59	4,463	2,806	2,553
18:00-18:59	2,405	2,183	2,002
19:00-19:59	1,648	1,747	1,603
20:00-20:59	1,408	1,564	1,201
21:00-21:59	1,097	1,435	828
22:00-22:59	713	1,025	491
23:00-23:59	412	637	304
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	70,034	0	0	70,034
Total Volume	258,250	40,367	34,510	333,128
				21%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	11a
Existing AADT for IHSDM	48,750

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	289			464			500
01:00-01:59	100	99	198			280			290
02:00-02:59	92	102	193			226			215
03:00-03:59	163	138	300			235			176
04:00-04:59	314	317	631			309			194
05:00-05:59	978	833	1,811			596			365
06:00-06:59	1,729	1,737	3,465			984			562
07:00-07:59	2,475	2,198	4,672			1,508			867
08:00-08:59	1,604	1,590	3,194			2,086			1,367
09:00-09:59	1,355	1,313	2,668			2,597			2,085
10:00-10:59	1,327	1,267	2,593			2,901			2,616
11:00-11:59	1,326	1,364	2,689			3,021			2,841
12:00-12:59	1,293	1,416	2,708			2,959			2,830
13:00-13:59	1,354	1,425	2,779			2,828			2,719
14:00-14:59	1,514	1,708	3,222			2,860			2,821
15:00-15:59	1,893	2,082	3,975			2,957			2,948
16:00-16:59	2,331	2,677	5,008			2,927			2,864
17:00-17:59	2,128	2,408	4,536			2,852			2,594
18:00-18:59	1,274	1,331	2,605			2,364			2,168
19:00-19:59	879	880	1,759			1,863			1,710
20:00-20:59	755	800	1,555			1,727			1,326
21:00-21:59	637	648	1,285			1,680			969
22:00-22:59	374	416	790			1,135			543
23:00-23:59	203	251	454			702			335

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

*Trends from ATR 050001

High Volume Hour Calculations

D

Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	264	423	457
01:00-01:59	181	256	265
02:00-02:59	176	207	196
03:00-03:59	274	215	161
04:00-04:59	576	282	177
05:00-05:59	1,654	544	334
06:00-06:59	3,165	899	513
07:00-07:59	4,267	1,377	791
08:00-08:59	2,917	1,905	1,249
09:00-09:59	2,437	2,373	1,904
10:00-10:59	2,368	2,649	2,389
11:00-11:59	2,456	2,759	2,595
12:00-12:59	2,473	2,703	2,584
13:00-13:59	2,538	2,583	2,484
14:00-14:59	2,942	2,613	2,576
15:00-15:59	3,630	2,701	2,693
16:00-16:59	4,574	2,673	2,616
17:00-17:59	4,143	2,605	2,370
18:00-18:59	2,379	2,159	1,980
19:00-19:59	1,606	1,702	1,562
20:00-20:59	1,420	1,577	1,211
21:00-21:59	1,173	1,535	885
22:00-22:59	721	1,037	496
23:00-23:59	415	641	306
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	64,922	0	0	64,922
Total Volume	243,750	38,418	32,794	314,962
				21%

I-41 IHSDM Analysis: High-Volume Hours Development

Volume Condition: Existing (2018)

DRAFT

April 2019

Segment	11b
Existing AADT for IHSDM	51,400

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	289			464			500
01:00-01:59	100	99	198			280			290
02:00-02:59	92	102	193			226			215
03:00-03:59	163	138	300			235			176
04:00-04:59	314	317	631			309			194
05:00-05:59	978	833	1,811			596			365
06:00-06:59	1,729	1,737	3,465			984			562
07:00-07:59	2,475	2,198	4,672			1,508			867
08:00-08:59	1,604	1,590	3,194			2,086			1,367
09:00-09:59	1,355	1,313	2,668			2,597			2,085
10:00-10:59	1,327	1,267	2,593			2,901			2,616
11:00-11:59	1,326	1,364	2,689			3,021			2,841
12:00-12:59	1,293	1,416	2,708			2,959			2,830
13:00-13:59	1,354	1,425	2,779			2,828			2,719
14:00-14:59	1,514	1,708	3,222			2,860			2,821
15:00-15:59	1,893	2,082	3,975			2,957			2,948
16:00-16:59	2,331	2,677	5,008			2,927			2,864
17:00-17:59	2,128	2,408	4,536			2,852			2,594
18:00-18:59	1,274	1,331	2,605			2,364			2,168
19:00-19:59	879	880	1,759			1,863			1,710
20:00-20:59	755	800	1,555			1,727			1,326
21:00-21:59	637	648	1,285			1,680			969
22:00-22:59	374	416	790			1,135			543
23:00-23:59	203	251	454			702			335

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

*Trends from ATR 050001

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	278	446	481
01:00-01:59	191	270	280
02:00-02:59	186	218	207
03:00-03:59	289	226	169
04:00-04:59	607	297	186
05:00-05:59	1,744	574	352
06:00-06:59	3,337	948	541
07:00-07:59	4,499	1,452	835
08:00-08:59	3,075	2,009	1,316
09:00-09:59	2,569	2,501	2,007
10:00-10:59	2,497	2,793	2,519
11:00-11:59	2,590	2,909	2,736
12:00-12:59	2,608	2,850	2,725
13:00-13:59	2,676	2,723	2,619
14:00-14:59	3,102	2,755	2,716
15:00-15:59	3,828	2,848	2,839
16:00-16:59	4,823	2,819	2,759
17:00-17:59	4,368	2,746	2,498
18:00-18:59	2,508	2,276	2,088
19:00-19:59	1,694	1,795	1,647
20:00-20:59	1,497	1,663	1,277
21:00-21:59	1,237	1,618	933
22:00-22:59	760	1,093	523
23:00-23:59	437	676	323
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	68,451	0	0	68,451
Total Volume	257,000	40,506	34,577	332,083
				21%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	11c
Existing AADT for IHSDM	53,900

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	289			464			500
01:00-01:59	100	99	198			280			290
02:00-02:59	92	102	193			226			215
03:00-03:59	163	138	300			235			176
04:00-04:59	314	317	631			309			194
05:00-05:59	978	833	1,811			596			365
06:00-06:59	1,729	1,737	3,465			984			562
07:00-07:59	2,475	2,198	4,672			1,508			867
08:00-08:59	1,604	1,590	3,194			2,086			1,367
09:00-09:59	1,355	1,313	2,668			2,597			2,085
10:00-10:59	1,327	1,267	2,593			2,901			2,616
11:00-11:59	1,326	1,364	2,689			3,021			2,841
12:00-12:59	1,293	1,416	2,708			2,959			2,830
13:00-13:59	1,354	1,425	2,779			2,828			2,719
14:00-14:59	1,514	1,708	3,222			2,860			2,821
15:00-15:59	1,893	2,082	3,975			2,957			2,948
16:00-16:59	2,331	2,677	5,008			2,927			2,864
17:00-17:59	2,128	2,408	4,536			2,852			2,594
18:00-18:59	1,274	1,331	2,605			2,364			2,168
19:00-19:59	879	880	1,759			1,863			1,710
20:00-20:59	755	800	1,555			1,727			1,326
21:00-21:59	637	648	1,285			1,680			969
22:00-22:59	374	416	790			1,135			543
23:00-23:59	203	251	454			702			335

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

*Trends from ATR 050001

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	291	468	505
01:00-01:59	200	283	293
02:00-02:59	195	229	217
03:00-03:59	303	237	178
04:00-04:59	637	312	195
05:00-05:59	1,828	602	369
06:00-06:59	3,499	994	567
07:00-07:59	4,718	1,523	875
08:00-08:59	3,225	2,106	1,380
09:00-09:59	2,694	2,623	2,105
10:00-10:59	2,619	2,929	2,642
11:00-11:59	2,716	3,050	2,869
12:00-12:59	2,735	2,988	2,857
13:00-13:59	2,806	2,856	2,746
14:00-14:59	3,253	2,889	2,848
15:00-15:59	4,014	2,987	2,977
16:00-16:59	5,057	2,956	2,893
17:00-17:59	4,580	2,880	2,620
18:00-18:59	2,630	2,387	2,189
19:00-19:59	1,776	1,882	1,727
20:00-20:59	1,570	1,744	1,339
21:00-21:59	1,297	1,697	979
22:00-22:59	797	1,146	548
23:00-23:59	458	709	338
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	91,849	0	0	91,849
Total Volume	269,500	42,476	36,259	348,235
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	11d
Existing AADT for IHSDM	53,750

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	289			464			500
01:00-01:59	100	99	198			280			290
02:00-02:59	92	102	193			226			215
03:00-03:59	163	138	300			235			176
04:00-04:59	314	317	631			309			194
05:00-05:59	978	833	1,811			596			365
06:00-06:59	1,729	1,737	3,465			984			562
07:00-07:59	2,475	2,198	4,672			1,508			867
08:00-08:59	1,604	1,590	3,194			2,086			1,367
09:00-09:59	1,355	1,313	2,668			2,597			2,085
10:00-10:59	1,327	1,267	2,593			2,901			2,616
11:00-11:59	1,326	1,364	2,689			3,021			2,841
12:00-12:59	1,293	1,416	2,708			2,959			2,830
13:00-13:59	1,354	1,425	2,779			2,828			2,719
14:00-14:59	1,514	1,708	3,222			2,860			2,821
15:00-15:59	1,893	2,082	3,975			2,957			2,948
16:00-16:59	2,331	2,677	5,008			2,927			2,864
17:00-17:59	2,128	2,408	4,536			2,852			2,594
18:00-18:59	1,274	1,331	2,605			2,364			2,168
19:00-19:59	879	880	1,759			1,863			1,710
20:00-20:59	755	800	1,555			1,727			1,326
21:00-21:59	637	648	1,285			1,680			969
22:00-22:59	374	416	790			1,135			543
23:00-23:59	203	251	454			702			335

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

*Trends from ATR 050001

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	291	467	503
01:00-01:59	199	282	292
02:00-02:59	194	228	216
03:00-03:59	302	237	177
04:00-04:59	635	311	195
05:00-05:59	1,823	600	368
06:00-06:59	3,490	991	565
07:00-07:59	4,705	1,519	873
08:00-08:59	3,216	2,101	1,377
09:00-09:59	2,687	2,616	2,099
10:00-10:59	2,611	2,921	2,634
11:00-11:59	2,708	3,042	2,861
12:00-12:59	2,727	2,980	2,850
13:00-13:59	2,798	2,848	2,739
14:00-14:59	3,244	2,880	2,840
15:00-15:59	4,003	2,978	2,969
16:00-16:59	5,043	2,948	2,885
17:00-17:59	4,568	2,872	2,613
18:00-18:59	2,623	2,380	2,183
19:00-19:59	1,771	1,877	1,722
20:00-20:59	1,565	1,739	1,335
21:00-21:59	1,294	1,692	976
22:00-22:59	795	1,143	547
23:00-23:59	457	707	337
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	91,593	0	0	91,593
Total Volume	268,750	42,358	36,158	347,266
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

Volume Condition: Existing (2018)

DRAFT

April 2019

Segment	11e
Existing AADT for IHSDM	53,900

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	289			464			500
01:00-01:59	100	99	198			280			290
02:00-02:59	92	102	193			226			215
03:00-03:59	163	138	300			235			176
04:00-04:59	314	317	631			309			194
05:00-05:59	978	833	1,811			596			365
06:00-06:59	1,729	1,737	3,465			984			562
07:00-07:59	2,475	2,198	4,672			1,508			867
08:00-08:59	1,604	1,590	3,194			2,086			1,367
09:00-09:59	1,355	1,313	2,668			2,597			2,085
10:00-10:59	1,327	1,267	2,593			2,901			2,616
11:00-11:59	1,326	1,364	2,689			3,021			2,841
12:00-12:59	1,293	1,416	2,708			2,959			2,830
13:00-13:59	1,354	1,425	2,779			2,828			2,719
14:00-14:59	1,514	1,708	3,222			2,860			2,821
15:00-15:59	1,893	2,082	3,975			2,957			2,948
16:00-16:59	2,331	2,677	5,008			2,927			2,864
17:00-17:59	2,128	2,408	4,536			2,852			2,594
18:00-18:59	1,274	1,331	2,605			2,364			2,168
19:00-19:59	879	880	1,759			1,863			1,710
20:00-20:59	755	800	1,555			1,727			1,326
21:00-21:59	637	648	1,285			1,680			969
22:00-22:59	374	416	790			1,135			543
23:00-23:59	203	251	454			702			335

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

*Trends from ATR 050001

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	291	468	505
01:00-01:59	200	283	293
02:00-02:59	195	229	217
03:00-03:59	303	237	178
04:00-04:59	637	312	195
05:00-05:59	1,828	602	369
06:00-06:59	3,499	994	567
07:00-07:59	4,718	1,523	875
08:00-08:59	3,225	2,106	1,380
09:00-09:59	2,694	2,623	2,105
10:00-10:59	2,619	2,929	2,642
11:00-11:59	2,716	3,050	2,869
12:00-12:59	2,735	2,988	2,857
13:00-13:59	2,806	2,856	2,746
14:00-14:59	3,253	2,889	2,848
15:00-15:59	4,014	2,987	2,977
16:00-16:59	5,057	2,956	2,893
17:00-17:59	4,580	2,880	2,620
18:00-18:59	2,630	2,387	2,189
19:00-19:59	1,776	1,882	1,727
20:00-20:59	1,570	1,744	1,339
21:00-21:59	1,297	1,697	979
22:00-22:59	797	1,146	548
23:00-23:59	458	709	338
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	91,849	0	0	91,849
Total Volume	269,500	42,476	36,259	348,235
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

Volume Condition: Existing (2018)

DRAFT

April 2019

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Segment	11f
Existing AADT for IHSDM	52,550

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	289			464			500
01:00-01:59	100	99	198			280			290
02:00-02:59	92	102	193			226			215
03:00-03:59	163	138	300			235			176
04:00-04:59	314	317	631			309			194
05:00-05:59	978	833	1,811			596			365
06:00-06:59	1,729	1,737	3,465			984			562
07:00-07:59	2,475	2,198	4,672			1,508			867
08:00-08:59	1,604	1,590	3,194			2,086			1,367
09:00-09:59	1,355	1,313	2,668			2,597			2,085
10:00-10:59	1,327	1,267	2,593			2,901			2,616
11:00-11:59	1,326	1,364	2,689			3,021			2,841
12:00-12:59	1,293	1,416	2,708			2,959			2,830
13:00-13:59	1,354	1,425	2,779			2,828			2,719
14:00-14:59	1,514	1,708	3,222			2,860			2,821
15:00-15:59	1,893	2,082	3,975			2,957			2,948
16:00-16:59	2,331	2,677	5,008			2,927			2,864
17:00-17:59	2,128	2,408	4,536			2,852			2,594
18:00-18:59	1,274	1,331	2,605			2,364			2,168
19:00-19:59	879	880	1,759			1,863			1,710
20:00-20:59	755	800	1,555			1,727			1,326
21:00-21:59	637	648	1,285			1,680			969
22:00-22:59	374	416	790			1,135			543
23:00-23:59	203	251	454			702			335

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

*Trends from ATR 050001

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	284	456	492
01:00-01:59	195	276	286
02:00-02:59	190	223	211
03:00-03:59	295	231	173
04:00-04:59	621	304	191
05:00-05:59	1,783	587	360
06:00-06:59	3,412	969	553
07:00-07:59	4,600	1,485	853
08:00-08:59	3,144	2,054	1,346
09:00-09:59	2,627	2,557	2,052
10:00-10:59	2,553	2,856	2,576
11:00-11:59	2,648	2,974	2,798
12:00-12:59	2,666	2,913	2,786
13:00-13:59	2,736	2,784	2,678
14:00-14:59	3,172	2,816	2,777
15:00-15:59	3,913	2,912	2,903
16:00-16:59	4,931	2,882	2,820
17:00-17:59	4,466	2,808	2,554
18:00-18:59	2,564	2,327	2,134
19:00-19:59	1,731	1,835	1,684
20:00-20:59	1,531	1,700	1,305
21:00-21:59	1,265	1,654	954
22:00-22:59	777	1,117	535
23:00-23:59	447	691	330
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	69,982	0	0	69,982
Total Volume	262,750	41,412	35,351	339,513
				21%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	12a
Existing AADT for IHSDM	51,600

2018 Annual ATR Data	
Location	USH 41 - 1.5 MI NE OF OUTAGAMIE COUNTY LINE - DE PERE
Site #	050001
Trend ID	6 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	123	156	279	201	247	448	217	266	483
01:00-01:59	101	113	214	135	168	303	141	173	314
02:00-02:59	113	120	233	122	151	273	117	142	259
03:00-03:59	156	169	326	111	144	255	83	108	191
04:00-04:59	367	366	733	176	183	359	98	127	225
05:00-05:59	888	956	1,844	288	319	607	187	185	372
06:00-06:59	1,815	1,752	3,567	505	508	1,013	302	276	578
07:00-07:59	2,643	2,253	4,896	780	800	1,580	480	428	908
08:00-08:59	1,737	1,551	3,287	1,088	1,059	2,147	774	633	1,407
09:00-09:59	1,439	1,339	2,777	1,402	1,302	2,704	1,189	981	2,170
10:00-10:59	1,406	1,354	2,761	1,601	1,487	3,088	1,409	1,376	2,785
11:00-11:59	1,455	1,457	2,912	1,710	1,561	3,271	1,452	1,625	3,077
12:00-12:59	1,497	1,538	3,035	1,712	1,604	3,316	1,487	1,684	3,171
13:00-13:59	1,551	1,600	3,151	1,634	1,573	3,207	1,448	1,636	3,084
14:00-14:59	1,734	1,833	3,567	1,614	1,553	3,167	1,400	1,723	3,123
15:00-15:59	2,101	2,196	4,298	1,630	1,568	3,198	1,396	1,792	3,188
16:00-16:59	2,551	2,818	5,369	1,626	1,512	3,138	1,376	1,695	3,071
17:00-17:59	2,295	2,340	4,635	1,535	1,379	2,914	1,219	1,432	2,651
18:00-18:59	1,381	1,292	2,673	1,262	1,164	2,426	1,029	1,196	2,225
19:00-19:59	904	874	1,779	957	928	1,885	786	944	1,730
20:00-20:59	742	738	1,481	815	830	1,645	593	670	1,263
21:00-21:59	592	602	1,194	712	850	1,562	430	471	901
22:00-22:59	389	454	843	520	692	1,212	262	318	580
23:00-23:59	242	281	523	334	475	809	150	236	386

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.3%	28%	16%
8.7%	32%	19%
5.8%	65%	43%
4.9%	97%	78%
4.9%	112%	101%
5.2%	112%	106%
5.4%	109%	104%
5.6%	102%	98%
6.3%	89%	88%
7.6%	74%	74%
9.5%	58%	57%
8.2%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.6%	111%	85%
2.1%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	255	410	442
01:00-01:59	196	277	287
02:00-02:59	213	250	237
03:00-03:59	298	233	175
04:00-04:59	671	329	206
05:00-05:59	1,688	556	340
06:00-06:59	3,265	927	529
07:00-07:59	4,481	1,446	831
08:00-08:59	3,009	1,965	1,288
09:00-09:59	2,542	2,475	1,986
10:00-10:59	2,527	2,826	2,549
11:00-11:59	2,665	2,994	2,816
12:00-12:59	2,778	3,035	2,902
13:00-13:59	2,884	2,935	2,823
14:00-14:59	3,265	2,899	2,858
15:00-15:59	3,934	2,927	2,918
16:00-16:59	4,914	2,872	2,811
17:00-17:59	4,242	2,667	2,426
18:00-18:59	2,447	2,221	2,037
19:00-19:59	1,628	1,725	1,583
20:00-20:59	1,355	1,506	1,156
21:00-21:59	1,093	1,430	825
22:00-22:59	772	1,109	531
23:00-23:59	479	740	353
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	68,187	0	0	68,187
Total Volume	258,000	40,755	34,911	333,667
				20%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	12b
Existing AADT for IHSDM	53,250

2018 Annual ATR Data	
Location	USH 41 - 1.5 MI NE OF OUTAGAMIE COUNTY LINE - DE PERE
Site #	050001
Trend ID	6 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	123	156	279	201	247	448	217	266	483
01:00-01:59	101	113	214	135	168	303	141	173	314
02:00-02:59	113	120	233	122	151	273	117	142	259
03:00-03:59	156	169	326	111	144	255	83	108	191
04:00-04:59	367	366	733	176	183	359	98	127	225
05:00-05:59	888	956	1,844	288	319	607	187	185	372
06:00-06:59	1,815	1,752	3,567	505	508	1,013	302	276	578
07:00-07:59	2,643	2,253	4,896	780	800	1,580	480	428	908
08:00-08:59	1,737	1,551	3,287	1,088	1,059	2,147	774	633	1,407
09:00-09:59	1,439	1,339	2,777	1,402	1,302	2,704	1,189	981	2,170
10:00-10:59	1,406	1,354	2,761	1,601	1,487	3,088	1,409	1,376	2,785
11:00-11:59	1,455	1,457	2,912	1,710	1,561	3,271	1,452	1,625	3,077
12:00-12:59	1,497	1,538	3,035	1,712	1,604	3,316	1,487	1,684	3,171
13:00-13:59	1,551	1,600	3,151	1,634	1,573	3,207	1,448	1,636	3,084
14:00-14:59	1,734	1,833	3,567	1,614	1,553	3,167	1,400	1,723	3,123
15:00-15:59	2,101	2,196	4,298	1,630	1,568	3,198	1,396	1,792	3,188
16:00-16:59	2,551	2,818	5,369	1,626	1,512	3,138	1,376	1,695	3,071
17:00-17:59	2,295	2,340	4,635	1,535	1,379	2,914	1,219	1,432	2,651
18:00-18:59	1,381	1,292	2,673	1,262	1,164	2,426	1,029	1,196	2,225
19:00-19:59	904	874	1,779	957	928	1,885	786	944	1,730
20:00-20:59	742	738	1,481	815	830	1,645	593	670	1,263
21:00-21:59	592	602	1,194	712	850	1,562	430	471	901
22:00-22:59	389	454	843	520	692	1,212	262	318	580
23:00-23:59	242	281	523	334	475	809	150	236	386

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.3%	28%	16%
8.7%	32%	19%
5.8%	65%	43%
4.9%	97%	78%
4.9%	112%	101%
5.2%	112%	106%
5.4%	109%	104%
5.6%	102%	98%
6.3%	89%	88%
7.6%	74%	74%
9.5%	58%	57%
8.2%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.6%	111%	85%
2.1%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	263	423	456
01:00-01:59	202	286	297
02:00-02:59	220	258	245
03:00-03:59	308	241	180
04:00-04:59	692	339	213
05:00-05:59	1,742	573	351
06:00-06:59	3,369	957	546
07:00-07:59	4,624	1,492	858
08:00-08:59	3,105	2,028	1,329
09:00-09:59	2,623	2,554	2,050
10:00-10:59	2,608	2,917	2,631
11:00-11:59	2,751	3,090	2,906
12:00-12:59	2,867	3,132	2,995
13:00-13:59	2,976	3,029	2,913
14:00-14:59	3,369	2,991	2,950
15:00-15:59	4,060	3,021	3,011
16:00-16:59	5,072	2,964	2,901
17:00-17:59	4,378	2,752	2,504
18:00-18:59	2,525	2,292	2,102
19:00-19:59	1,680	1,781	1,634
20:00-20:59	1,399	1,554	1,193
21:00-21:59	1,128	1,475	851
22:00-22:59	796	1,145	548
23:00-23:59	494	764	365
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	90,665	0	0	90,665
Total Volume	266,250	42,059	36,028	344,336
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	12c
Existing AADT for IHSDM	55,050

2018 Annual ATR Data	
Location	USH 41 - 1.5 MI NE OF OUTAGAMIE COUNTY LINE - DE PERE
Site #	050001
Trend ID	6 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	123	156	279	201	247	448	217	266	483
01:00-01:59	101	113	214	135	168	303	141	173	314
02:00-02:59	113	120	233	122	151	273	117	142	259
03:00-03:59	156	169	326	111	144	255	83	108	191
04:00-04:59	367	366	733	176	183	359	98	127	225
05:00-05:59	888	956	1,844	288	319	607	187	185	372
06:00-06:59	1,815	1,752	3,567	505	508	1,013	302	276	578
07:00-07:59	2,643	2,253	4,896	780	800	1,580	480	428	908
08:00-08:59	1,737	1,551	3,287	1,088	1,059	2,147	774	633	1,407
09:00-09:59	1,439	1,339	2,777	1,402	1,302	2,704	1,189	981	2,170
10:00-10:59	1,406	1,354	2,761	1,601	1,487	3,088	1,409	1,376	2,785
11:00-11:59	1,455	1,457	2,912	1,710	1,561	3,271	1,452	1,625	3,077
12:00-12:59	1,497	1,538	3,035	1,712	1,604	3,316	1,487	1,684	3,171
13:00-13:59	1,551	1,600	3,151	1,634	1,573	3,207	1,448	1,636	3,084
14:00-14:59	1,734	1,833	3,567	1,614	1,553	3,167	1,400	1,723	3,123
15:00-15:59	2,101	2,196	4,298	1,630	1,568	3,198	1,396	1,792	3,188
16:00-16:59	2,551	2,818	5,369	1,626	1,512	3,138	1,376	1,695	3,071
17:00-17:59	2,295	2,340	4,635	1,535	1,379	2,914	1,219	1,432	2,651
18:00-18:59	1,381	1,292	2,673	1,262	1,164	2,426	1,029	1,196	2,225
19:00-19:59	904	874	1,779	957	928	1,885	786	944	1,730
20:00-20:59	742	738	1,481	815	830	1,645	593	670	1,263
21:00-21:59	592	602	1,194	712	850	1,562	430	471	901
22:00-22:59	389	454	843	520	692	1,212	262	318	580
23:00-23:59	242	281	523	334	475	809	150	236	386

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.3%	28%	16%
8.7%	32%	19%
5.8%	65%	43%
4.9%	97%	78%
4.9%	112%	101%
5.2%	112%	106%
5.4%	109%	104%
5.6%	102%	98%
6.3%	89%	88%
7.6%	74%	74%
9.5%	58%	57%
8.2%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.6%	111%	85%
2.1%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	272	437	472
01:00-01:59	209	296	307
02:00-02:59	227	267	253
03:00-03:59	318	249	187
04:00-04:59	716	351	220
05:00-05:59	1,800	593	363
06:00-06:59	3,483	989	564
07:00-07:59	4,781	1,543	887
08:00-08:59	3,210	2,097	1,374
09:00-09:59	2,712	2,640	2,119
10:00-10:59	2,696	3,015	2,720
11:00-11:59	2,844	3,194	3,005
12:00-12:59	2,963	3,238	3,096
13:00-13:59	3,077	3,132	3,012
14:00-14:59	3,483	3,093	3,050
15:00-15:59	4,197	3,123	3,113
16:00-16:59	5,243	3,064	2,999
17:00-17:59	4,526	2,846	2,589
18:00-18:59	2,610	2,369	2,173
19:00-19:59	1,737	1,841	1,689
20:00-20:59	1,446	1,606	1,233
21:00-21:59	1,166	1,525	880
22:00-22:59	823	1,184	566
23:00-23:59	511	790	377
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	93,730	0	0	93,730
Total Volume	275,250	43,480	37,245	355,976
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	12d
Existing AADT for IHSDM	53,200

2018 Annual ATR Data	
Location	USH 41 - 1.5 MI NE OF OUTAGAMIE COUNTY LINE - DE PERE
Site #	050001
Trend ID	6 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	123	156	279	201	247	448	217	266	483
01:00-01:59	101	113	214	135	168	303	141	173	314
02:00-02:59	113	120	233	122	151	273	117	142	259
03:00-03:59	156	169	326	111	144	255	83	108	191
04:00-04:59	367	366	733	176	183	359	98	127	225
05:00-05:59	888	956	1,844	288	319	607	187	185	372
06:00-06:59	1,815	1,752	3,567	505	508	1,013	302	276	578
07:00-07:59	2,643	2,253	4,896	780	800	1,580	480	428	908
08:00-08:59	1,737	1,551	3,287	1,088	1,059	2,147	774	633	1,407
09:00-09:59	1,439	1,339	2,777	1,402	1,302	2,704	1,189	981	2,170
10:00-10:59	1,406	1,354	2,761	1,601	1,487	3,088	1,409	1,376	2,785
11:00-11:59	1,455	1,457	2,912	1,710	1,561	3,271	1,452	1,625	3,077
12:00-12:59	1,497	1,538	3,035	1,712	1,604	3,316	1,487	1,684	3,171
13:00-13:59	1,551	1,600	3,151	1,634	1,573	3,207	1,448	1,636	3,084
14:00-14:59	1,734	1,833	3,567	1,614	1,553	3,167	1,400	1,723	3,123
15:00-15:59	2,101	2,196	4,298	1,630	1,568	3,198	1,396	1,792	3,188
16:00-16:59	2,551	2,818	5,369	1,626	1,512	3,138	1,376	1,695	3,071
17:00-17:59	2,295	2,340	4,635	1,535	1,379	2,914	1,219	1,432	2,651
18:00-18:59	1,381	1,292	2,673	1,262	1,164	2,426	1,029	1,196	2,225
19:00-19:59	904	874	1,779	957	928	1,885	786	944	1,730
20:00-20:59	742	738	1,481	815	830	1,645	593	670	1,263
21:00-21:59	592	602	1,194	712	850	1,562	430	471	901
22:00-22:59	389	454	843	520	692	1,212	262	318	580
23:00-23:59	242	281	523	334	475	809	150	236	386

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.3%	28%	16%
8.7%	32%	19%
5.8%	65%	43%
4.9%	97%	78%
4.9%	112%	101%
5.2%	112%	106%
5.4%	109%	104%
5.6%	102%	98%
6.3%	89%	88%
7.6%	74%	74%
9.5%	58%	57%
8.2%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.6%	111%	85%
2.1%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	263	423	456
01:00-01:59	202	286	296
02:00-02:59	220	258	244
03:00-03:59	307	241	180
04:00-04:59	692	339	212
05:00-05:59	1,740	573	351
06:00-06:59	3,366	956	545
07:00-07:59	4,620	1,491	857
08:00-08:59	3,102	2,026	1,328
09:00-09:59	2,621	2,552	2,048
10:00-10:59	2,605	2,914	2,628
11:00-11:59	2,748	3,087	2,904
12:00-12:59	2,864	3,129	2,992
13:00-13:59	2,974	3,026	2,910
14:00-14:59	3,366	2,989	2,947
15:00-15:59	4,056	3,018	3,008
16:00-16:59	5,067	2,961	2,898
17:00-17:59	4,374	2,750	2,502
18:00-18:59	2,523	2,289	2,100
19:00-19:59	1,679	1,779	1,633
20:00-20:59	1,397	1,552	1,192
21:00-21:59	1,127	1,474	850
22:00-22:59	796	1,144	547
23:00-23:59	494	763	364
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	90,580	0	0	90,580
Total Volume	266,000	42,019	35,994	344,013
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	13a
Existing AADT for IHSDM	51,800

2018 Annual ATR Data	
Location	USH 41 SOUTH OF CTH F
Site #	050109
Trend ID	7 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	135	150	285	225	246	471	254	272	526
01:00-01:59	109	112	221	147	171	318	156	178	334
02:00-02:59	116	124	240	130	156	286	126	146	272
03:00-03:59	158	182	340	117	149	266	89	110	199
04:00-04:59	378	401	779	188	205	393	106	139	245
05:00-05:59	936	1,024	1,960	303	334	637	195	192	387
06:00-06:59	1,882	1,829	3,712	518	533	1,051	306	297	603
07:00-07:59	2,916	2,216	5,133	822	833	1,655	497	448	945
08:00-08:59	1,950	1,546	3,496	1,149	1,101	2,250	769	672	1,441
09:00-09:59	1,564	1,393	2,956	1,487	1,362	2,849	1,222	1,055	2,277
10:00-10:59	1,515	1,427	2,942	1,696	1,559	3,255	1,468	1,461	2,929
11:00-11:59	1,556	1,538	3,094	1,803	1,639	3,442	1,562	1,714	3,276
12:00-12:59	1,602	1,629	3,231	1,801	1,696	3,497	1,568	1,775	3,343
13:00-13:59	1,654	1,702	3,356	1,722	1,663	3,385	1,523	1,718	3,241
14:00-14:59	1,821	1,978	3,799	1,693	1,663	3,356	1,477	1,801	3,278
15:00-15:59	2,174	2,382	4,556	1,722	1,664	3,386	1,464	1,853	3,317
16:00-16:59	2,601	3,031	5,632	1,705	1,603	3,308	1,446	1,745	3,191
17:00-17:59	2,430	2,402	4,832	1,622	1,457	3,079	1,297	1,454	2,751
18:00-18:59	1,519	1,365	2,884	1,359	1,210	2,569	1,091	1,251	2,342
19:00-19:59	979	942	1,921	1,023	987	2,010	837	991	1,828
20:00-20:59	783	797	1,581	854	887	1,741	630	683	1,313
21:00-21:59	628	642	1,270	749	900	1,649	455	482	937
22:00-22:59	418	465	882	561	714	1,275	283	332	615
23:00-23:59	259	280	539	368	474	842	161	237	398

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	165%	185%
0.4%	144%	151%
0.4%	119%	113%
0.6%	78%	58%
1.3%	50%	31%
3.3%	32%	20%
6.2%	28%	16%
8.6%	32%	18%
5.9%	64%	41%
5.0%	96%	77%
4.9%	111%	100%
5.2%	111%	106%
5.4%	108%	103%
5.6%	101%	97%
6.4%	88%	86%
7.6%	74%	73%
9.4%	59%	57%
8.1%	64%	57%
4.8%	89%	81%
3.2%	105%	95%
2.7%	110%	83%
2.1%	130%	74%
1.5%	144%	70%
0.9%	156%	74%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	247	409	457
01:00-01:59	192	276	290
02:00-02:59	208	248	236
03:00-03:59	295	231	173
04:00-04:59	677	341	213
05:00-05:59	1,702	553	336
06:00-06:59	3,224	913	524
07:00-07:59	4,458	1,437	821
08:00-08:59	3,036	1,954	1,252
09:00-09:59	2,568	2,474	1,978
10:00-10:59	2,555	2,827	2,544
11:00-11:59	2,687	2,989	2,845
12:00-12:59	2,806	3,037	2,904
13:00-13:59	2,915	2,940	2,815
14:00-14:59	3,300	2,915	2,847
15:00-15:59	3,957	2,941	2,881
16:00-16:59	4,892	2,873	2,771
17:00-17:59	4,197	2,674	2,389
18:00-18:59	2,505	2,231	2,034
19:00-19:59	1,669	1,746	1,588
20:00-20:59	1,373	1,512	1,140
21:00-21:59	1,103	1,432	814
22:00-22:59	766	1,107	534
23:00-23:59	468	731	346
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/In	67,732	0	0	67,732
Total Volume	259,000	40,795	34,731	334,526
				20%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	13b
Existing AADT for IHSDM	54,700

2018 Annual ATR Data	
Location	USH 41 SOUTH OF CTH F
Site #	050109
Trend ID	7 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	135	150	285	225	246	471	254	272	526
01:00-01:59	109	112	221	147	171	318	156	178	334
02:00-02:59	116	124	240	130	156	286	126	146	272
03:00-03:59	158	182	340	117	149	266	89	110	199
04:00-04:59	378	401	779	188	205	393	106	139	245
05:00-05:59	936	1,024	1,960	303	334	637	195	192	387
06:00-06:59	1,882	1,829	3,712	518	533	1,051	306	297	603
07:00-07:59	2,916	2,216	5,133	822	833	1,655	497	448	945
08:00-08:59	1,950	1,546	3,496	1,149	1,101	2,250	769	672	1,441
09:00-09:59	1,564	1,393	2,956	1,487	1,362	2,849	1,222	1,055	2,277
10:00-10:59	1,515	1,427	2,942	1,696	1,559	3,255	1,468	1,461	2,929
11:00-11:59	1,556	1,538	3,094	1,803	1,639	3,442	1,562	1,714	3,276
12:00-12:59	1,602	1,629	3,231	1,801	1,696	3,497	1,568	1,775	3,343
13:00-13:59	1,654	1,702	3,356	1,722	1,663	3,385	1,523	1,718	3,241
14:00-14:59	1,821	1,978	3,799	1,693	1,663	3,356	1,477	1,801	3,278
15:00-15:59	2,174	2,382	4,556	1,722	1,664	3,386	1,464	1,853	3,317
16:00-16:59	2,601	3,031	5,632	1,705	1,603	3,308	1,446	1,745	3,191
17:00-17:59	2,430	2,402	4,832	1,622	1,457	3,079	1,297	1,454	2,751
18:00-18:59	1,519	1,365	2,884	1,359	1,210	2,569	1,091	1,251	2,342
19:00-19:59	979	942	1,921	1,023	987	2,010	837	991	1,828
20:00-20:59	783	797	1,581	854	887	1,741	630	683	1,313
21:00-21:59	628	642	1,270	749	900	1,649	455	482	937
22:00-22:59	418	465	882	561	714	1,275	283	332	615
23:00-23:59	259	280	539	368	474	842	161	237	398

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	165%	185%
0.4%	144%	151%
0.4%	119%	113%
0.6%	78%	58%
1.3%	50%	31%
3.3%	32%	20%
6.2%	28%	16%
8.6%	32%	18%
5.9%	64%	41%
5.0%	96%	77%
4.9%	111%	100%
5.2%	111%	106%
5.4%	108%	103%
5.6%	101%	97%
6.4%	88%	86%
7.6%	74%	73%
9.4%	59%	57%
8.1%	64%	57%
4.8%	89%	81%
3.2%	105%	95%
2.7%	110%	83%
2.1%	130%	74%
1.5%	144%	70%
0.9%	156%	74%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	261	432	482
01:00-01:59	203	292	306
02:00-02:59	220	262	249
03:00-03:59	312	244	183
04:00-04:59	715	360	225
05:00-05:59	1,798	584	355
06:00-06:59	3,404	964	553
07:00-07:59	4,707	1,518	867
08:00-08:59	3,206	2,064	1,322
09:00-09:59	2,711	2,613	2,088
10:00-10:59	2,698	2,985	2,686
11:00-11:59	2,838	3,157	3,005
12:00-12:59	2,963	3,207	3,066
13:00-13:59	3,078	3,105	2,973
14:00-14:59	3,484	3,078	3,006
15:00-15:59	4,179	3,105	3,042
16:00-16:59	5,165	3,034	2,927
17:00-17:59	4,432	2,824	2,523
18:00-18:59	2,645	2,356	2,148
19:00-19:59	1,762	1,843	1,677
20:00-20:59	1,450	1,597	1,204
21:00-21:59	1,165	1,512	859
22:00-22:59	809	1,169	564
23:00-23:59	494	772	365
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	92,418	0	0	92,418
Total Volume	273,500	43,079	36,675	353,254
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

April 2019

Volume Condition: Existing (2018)

DRAFT

Segment	13c
Existing AADT for IHSDM	57,900

2018 Annual ATR Data	
Location	USH 41 SOUTH OF CTH F
Site #	050109
Trend ID	7 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	135	150	285	225	246	471	254	272	526
01:00-01:59	109	112	221	147	171	318	156	178	334
02:00-02:59	116	124	240	130	156	286	126	146	272
03:00-03:59	158	182	340	117	149	266	89	110	199
04:00-04:59	378	401	779	188	205	393	106	139	245
05:00-05:59	936	1,024	1,960	303	334	637	195	192	387
06:00-06:59	1,882	1,829	3,712	518	533	1,051	306	297	603
07:00-07:59	2,916	2,216	5,133	822	833	1,655	497	448	945
08:00-08:59	1,950	1,546	3,496	1,149	1,101	2,250	769	672	1,441
09:00-09:59	1,564	1,393	2,956	1,487	1,362	2,849	1,222	1,055	2,277
10:00-10:59	1,515	1,427	2,942	1,696	1,559	3,255	1,468	1,461	2,929
11:00-11:59	1,556	1,538	3,094	1,803	1,639	3,442	1,562	1,714	3,276
12:00-12:59	1,602	1,629	3,231	1,801	1,696	3,497	1,568	1,775	3,343
13:00-13:59	1,654	1,702	3,356	1,722	1,663	3,385	1,523	1,718	3,241
14:00-14:59	1,821	1,978	3,799	1,693	1,663	3,356	1,477	1,801	3,278
15:00-15:59	2,174	2,382	4,556	1,722	1,664	3,386	1,464	1,853	3,317
16:00-16:59	2,601	3,031	5,632	1,705	1,603	3,308	1,446	1,745	3,191
17:00-17:59	2,430	2,402	4,832	1,622	1,457	3,079	1,297	1,454	2,751
18:00-18:59	1,519	1,365	2,884	1,359	1,210	2,569	1,091	1,251	2,342
19:00-19:59	979	942	1,921	1,023	987	2,010	837	991	1,828
20:00-20:59	783	797	1,581	854	887	1,741	630	683	1,313
21:00-21:59	628	642	1,270	749	900	1,649	455	482	937
22:00-22:59	418	465	882	561	714	1,275	283	332	615
23:00-23:59	259	280	539	368	474	842	161	237	398

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	165%	185%
0.4%	144%	151%
0.4%	119%	113%
0.6%	78%	58%
1.3%	50%	31%
3.3%	32%	20%
6.2%	28%	16%
8.6%	32%	18%
5.9%	64%	41%
5.0%	96%	77%
4.9%	111%	100%
5.2%	111%	106%
5.4%	108%	103%
5.6%	101%	97%
6.4%	88%	86%
7.6%	74%	73%
9.4%	59%	57%
8.1%	64%	57%
4.8%	89%	81%
3.2%	105%	95%
2.7%	110%	83%
2.1%	130%	74%
1.5%	144%	70%
0.9%	156%	74%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	276	457	511
01:00-01:59	215	309	324
02:00-02:59	233	278	264
03:00-03:59	330	258	193
04:00-04:59	757	382	238
05:00-05:59	1,903	618	376
06:00-06:59	3,603	1,020	585
07:00-07:59	4,983	1,607	917
08:00-08:59	3,394	2,184	1,399
09:00-09:59	2,870	2,766	2,211
10:00-10:59	2,856	3,160	2,844
11:00-11:59	3,004	3,342	3,180
12:00-12:59	3,136	3,395	3,245
13:00-13:59	3,258	3,286	3,146
14:00-14:59	3,688	3,258	3,182
15:00-15:59	4,423	3,287	3,220
16:00-16:59	5,468	3,211	3,098
17:00-17:59	4,691	2,989	2,671
18:00-18:59	2,800	2,494	2,274
19:00-19:59	1,865	1,951	1,775
20:00-20:59	1,535	1,690	1,275
21:00-21:59	1,233	1,601	910
22:00-22:59	857	1,238	597
23:00-23:59	523	817	386
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	97,825	0	0	97,825
Total Volume	289,500	45,599	38,821	373,920
				26%

ATTACHMENT F
FUTURE NO-BUILD TRAFFIC INPUTS

I-41 IHSDM Analysis: 2028 Traffic Input Summary (Daily Volumes and High-Volume Hours)

FUTURE NO-BUILD ALTERNATIVE

May 2019 (Draft)

	IHSDM AADT Volume Inputs									
Segment	Station Start	Station End	Year	2-way AADT (vpd)	Mainline Description	Ramp Notes	Weekday Trends (Count #)	Weekend Trends (ATR #)	# Lanes (2-way)	Percent High Volume Hours*
1a	392+00	419+00	2028	79,950	South of CTH BB		ATR 1	ATR 1	6	0.25
1b	419+00	419+10	2028	73,750	CTH BB southern ramps, between gores	Includes SB on, Excludes NB off		(6-lane)	6	0.07
2a	419+10	441+50	2028	68,500	At CTH BB		CC 1	ATR 2 (6-lane)	6	0.07
2b	441+50	445+35	2028	74,250	CTH BB northern ramps, between gores	Includes SB off, Excludes NB on			6	0.07
2c	445+35	477+75	2028	80,100	CTH BB to STH 125				6	0.19
2d	477+75	483+95	2028	72,500	STH 125 southern ramps, between gores	Includes NB off, Excludes SB on			6	0.07
3a	483+95	505+55	2028	63,100	At STH 125		ATR 2		6	0.00
3b	505+55	510+55	2028	68,050	STH 125 northern ramps, between gores	Includes SB off, Excludes NB on			6	0.07
3c	510+55	521+85	2028	73,400	STH 125 to STH 96				6	0.13
3d	521+85	523+00	2028	66,250	STH 96 southern ramps, between gores	Includes NB off, Excludes SB on			6	0.00
4a	523+00	546+35	2028	58,700	At STH 96		ATR 3	ATR 3 (6-lane)	6	0.00
4b	546+35	550+75	2028	64,950	STH 96 northern ramps, between gores	Includes SB off, Excludes NB on			6	0.00
4c	550+75	576+30	2028	71,100	STH 96 to STH 15				6	0.07
4d	576+30	591+30	2028	62,600	STH 15 southern ramps, between gores	Includes SB on, Excludes NB off			5	0.07
5a	591+30	603+65	2028	56,150	At STH 15		CC 2	ATR 4 (4-lane)	4	0.25
5b	603+65	605+10	2028	64,700	STH 15 northern ramps, between gores	Includes NB on, Excludes SB off			4	0.30
5c	605+10	735+45	2028	75,200	STH 15 to STH 47				4	0.56
5d	735+45	735+85	2028	69,450	STH 47 southern ramps, between gores	Includes SB on, Excludes NB off			4	0.41
6a	735+85	759+40	2028	63,000	At STH 47		CC 3		4	0.31
6b	759+40	762+30	2028	70,250	STH 47 northern ramps, between gores	Includes NB on, Excludes SB off			4	0.41
6c	762+30	843+80	2028	77,550	STH 47 to CTH E				4	0.68
6d	843+80	844+30	2028	69,700	CTH E southern ramps, between gores	Includes SB on, Excludes NB off			4	0.40
7a	844+30	863+45	2028	61,150	At CTH E		ATR 4		4	0.31
7b	863+45	863+60	2028	69,150	CTH E northern ramps, between gores	Includes SB off, Excludes NB on			4	0.47
7c	863+60	884+15	2028	79,850	CTH E to STH 441				4	0.69
7d	884+15	890+25	2028	65,050	STH 441 southern ramps, between gores	Includes NB off, Excludes SB on			4	0.32
8a	890+25	904+25	2028	52,150	At STH 441		ATR 5	ATR 5 (4-lane)	4	0.26
8b	904+25	917+20	2028	61,050	STH 441 northern ramps, between gores	Includes SB off, Excludes NB on			4	0.26
8c	917+20	1006+00	2028	68,350	STH 441 to CTH N				4	0.36
8d	1006+00	1006+65	2028	62,950	CTH N southern ramps, between gores	Includes NB off, Excludes SB on			4	0.31
9a	1006+65	1027+30	2028	57,800	At CTH N		CC 4		4	0.26
9b	1027+30	1027+45	2028	60,200	CTH N northern ramps, between gores	Includes NB on, Excludes SB off			4	0.26
9c	1027+45	1112+20	2028	63,250	CTH N to STH 55				4	0.31
9d	1112+20	1114+35	2028	59,350	STH 55 southern ramps, between gores	Includes NB off, Excludes SB on			4	0.26
10a	1114+35	1131+50	2028	55,350	At STH 55		CC 5	ATR 6 (4-lane)	4	0.27
10b	1131+50	1135+75	2028	57,300	STH 55 northern ramps, between gores	Includes SB off, Excludes NB on			4	0.27
10c	1135+75	1175+85	2028	58,850	STH 55 to CTH J				4	0.27
10d	1175+85	1176+35	2028	55,250	CTH J southern ramps, between gores	Includes SB on, Excludes NB off			4	0.27
11a	1176+35	1196+10	2028	51,550	At CTH J		CC 6		4	0.21
11b	1196+10	1197+20	2028	54,800	CTH J northern ramps, between gores	Includes NB on, Excludes SB off			4	0.26
11c	1197+20	1357+80	2028	57,900	CTH J to weigh station				4	0.26
11d	1357+80	1382+15	2028	57,750	At weigh station	Excludes weigh station volume (150 vpd)			4	0.26
11e	1382+15	1395+60	2028	57,900	Weigh station to CTH U				4	0.26
11f	1395+60	1397+75	2028	56,150	CTH U southern ramps, between gores	Includes NB off, Excludes SB on			4	0.26
12a	1397+75	1424+25	2028	54,850	At CTH U		ATR 6		4	0.26
12b	1424+25	1425+00	2028	57,150	CTH U northern ramps, between gores	Includes NB on, Excludes SB off			4	0.26
12c	1425+00	1552+20	2028	59,550	CTH U to CTH S				4	0.26
12d	1552+20	1554+10	2028	57,200	CTH S southern ramps, between gores	Includes NB off, Excludes SB on			4	0.26
13a	1554+10	1580+90	2028	55,400	At CTH S		ATR 7	ATR 7 (4-lane)	4	0.26
13b	1580+90	1584+60	2028	58,600	CTH S northern ramps, between gores	Includes SB off, Excludes NB on			4	0.26
13c	1584+60	1736+57	2028	62,200	CTH S to CTH F				4	0.26

Prefixes: CC = Coverage Count, ATR = Automatic Traffic Recorder

**See High-Volume Hours attachment for the No-Build Alternative to view the high-volume hours calculations for each individual traffic volume segment.*

I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

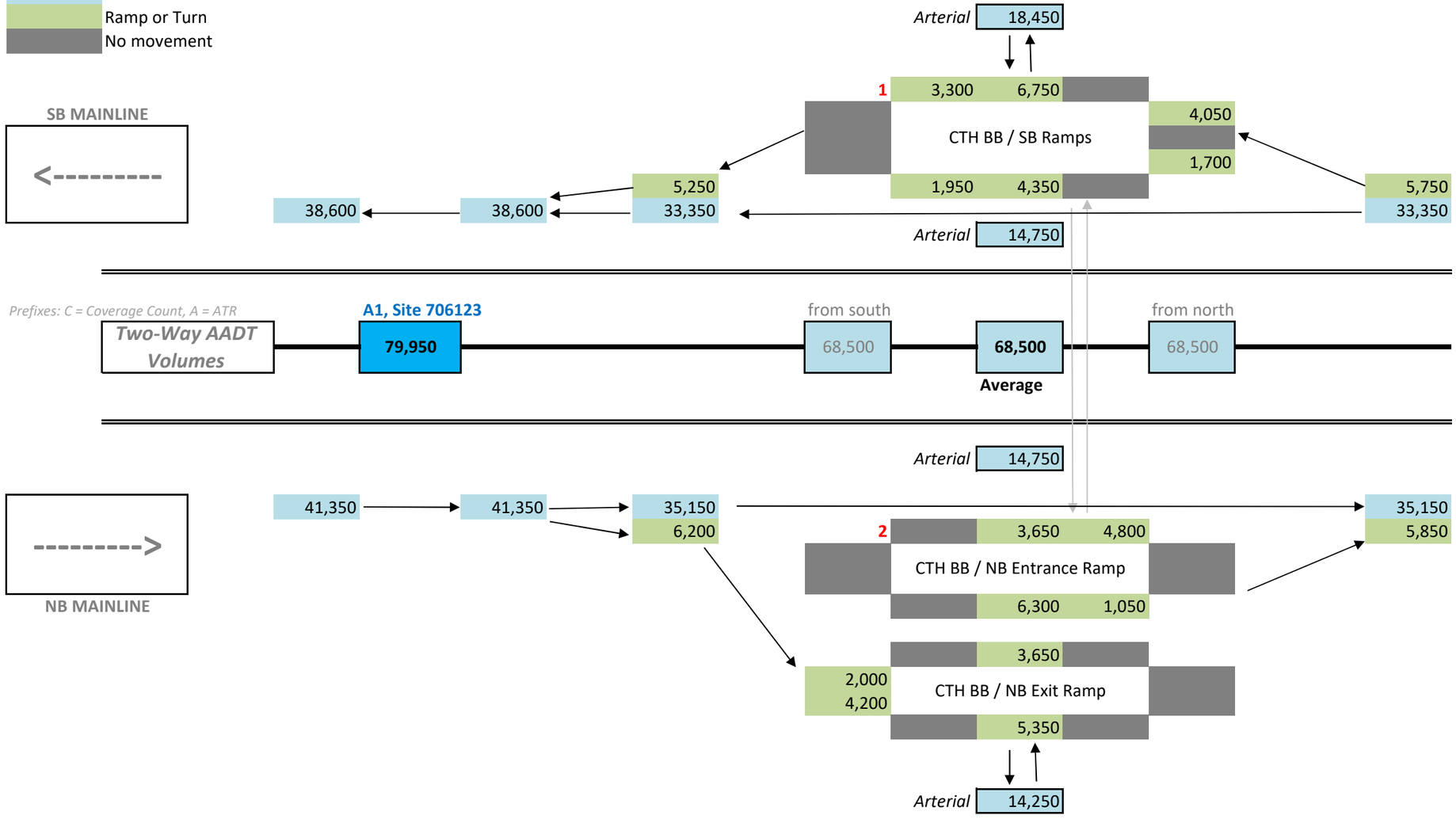
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

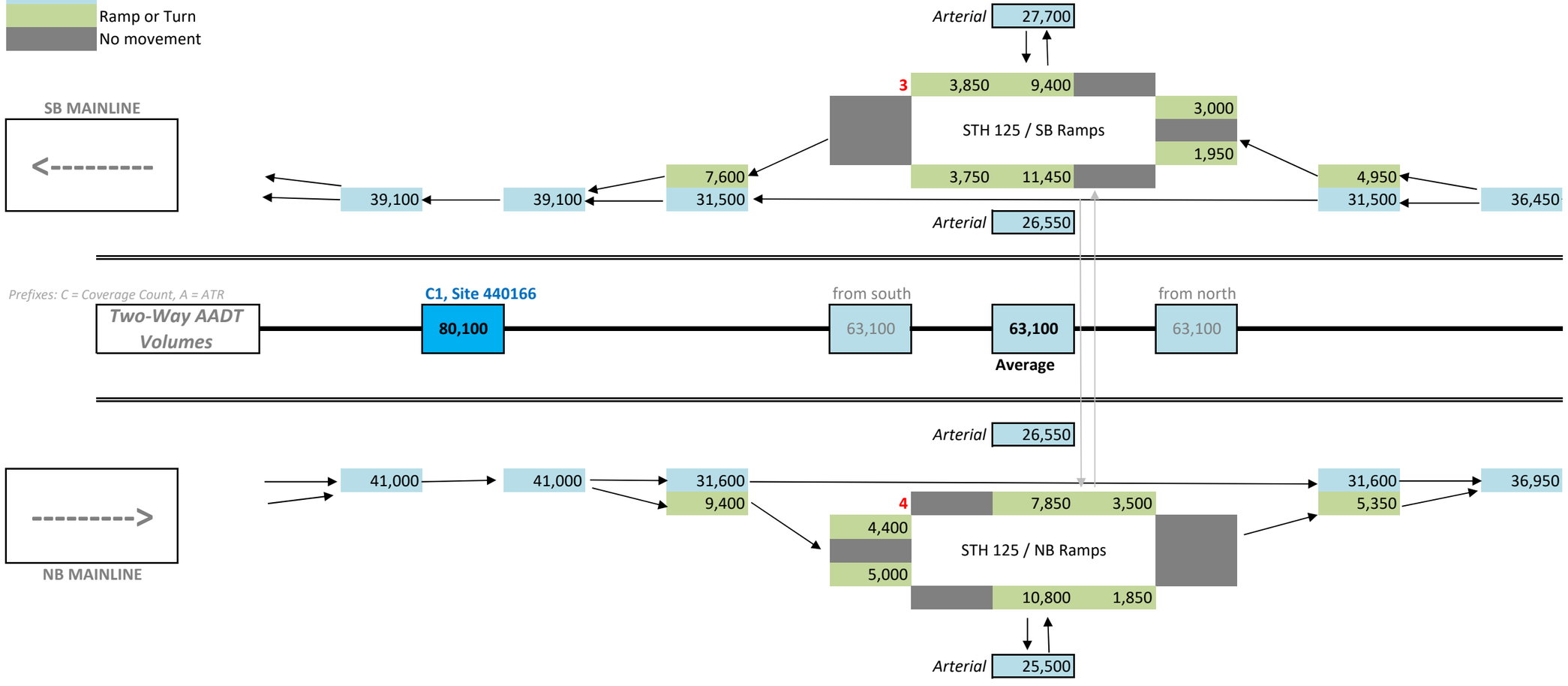
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

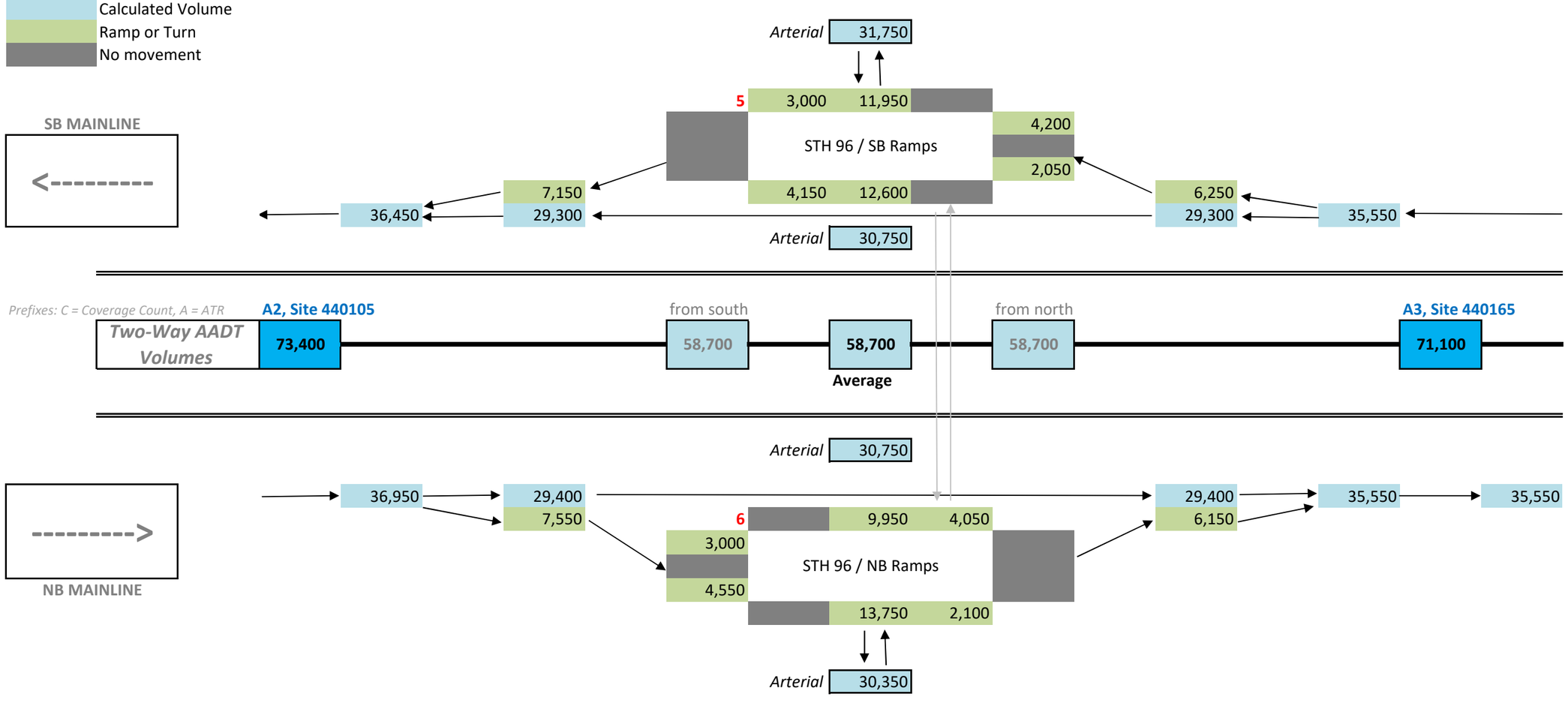
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

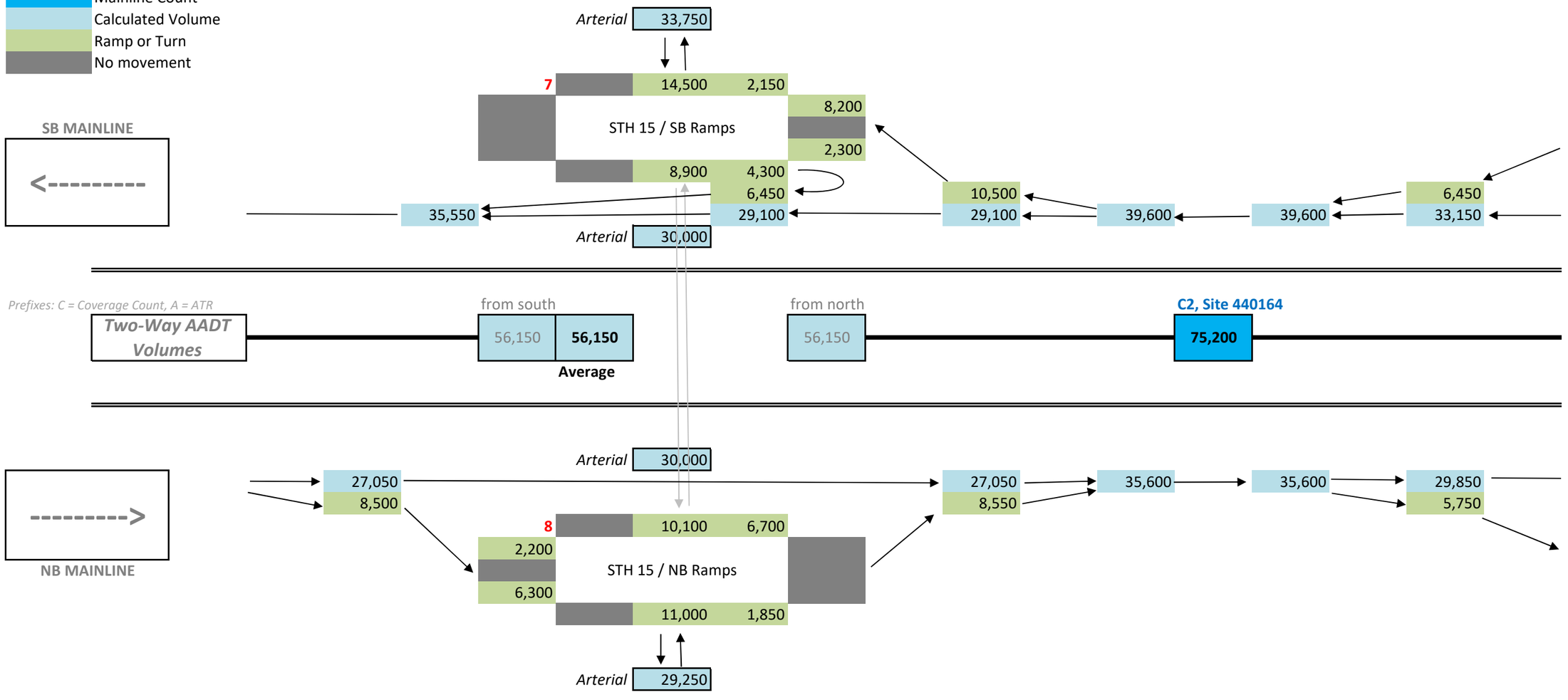
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

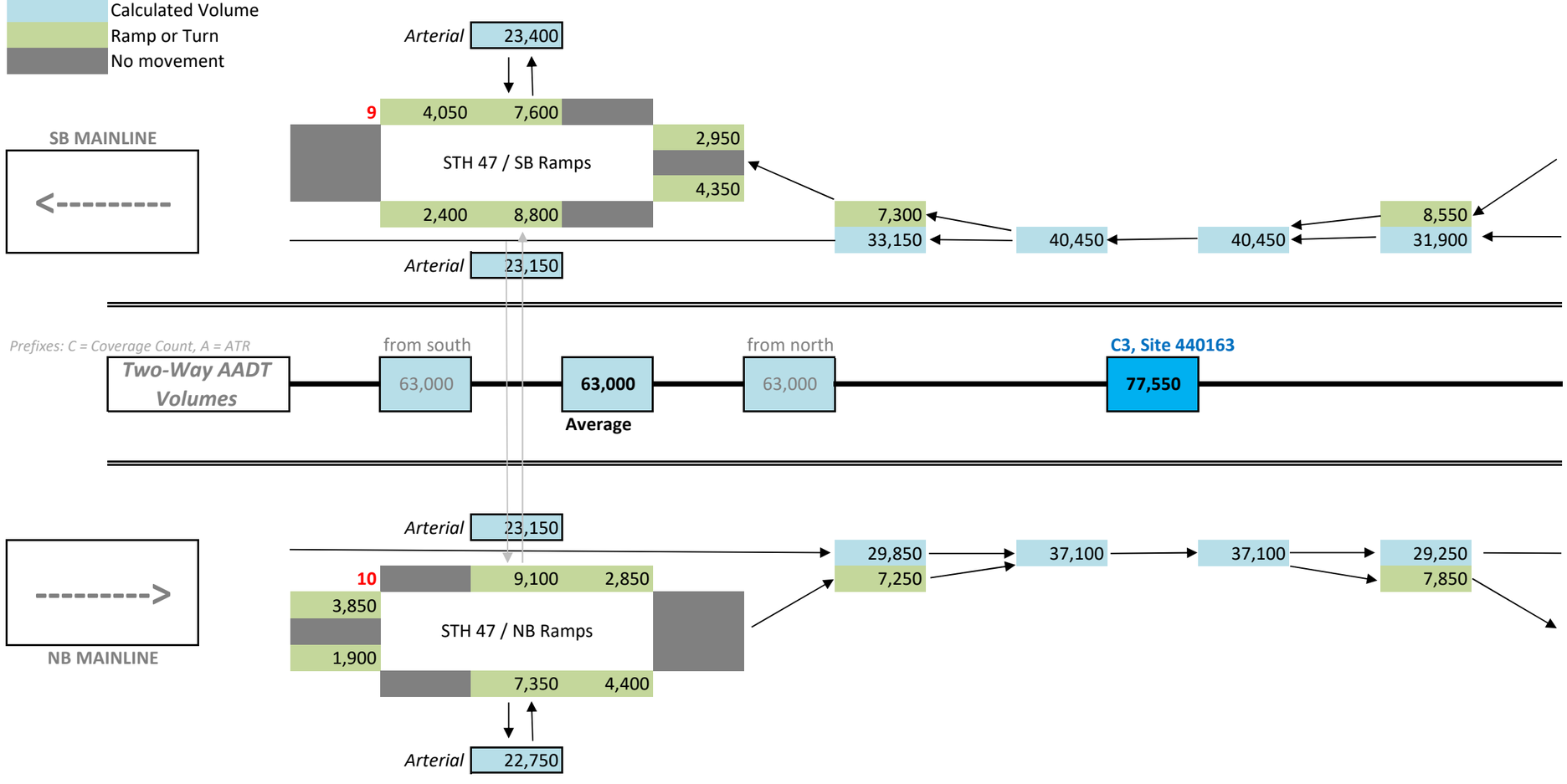
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

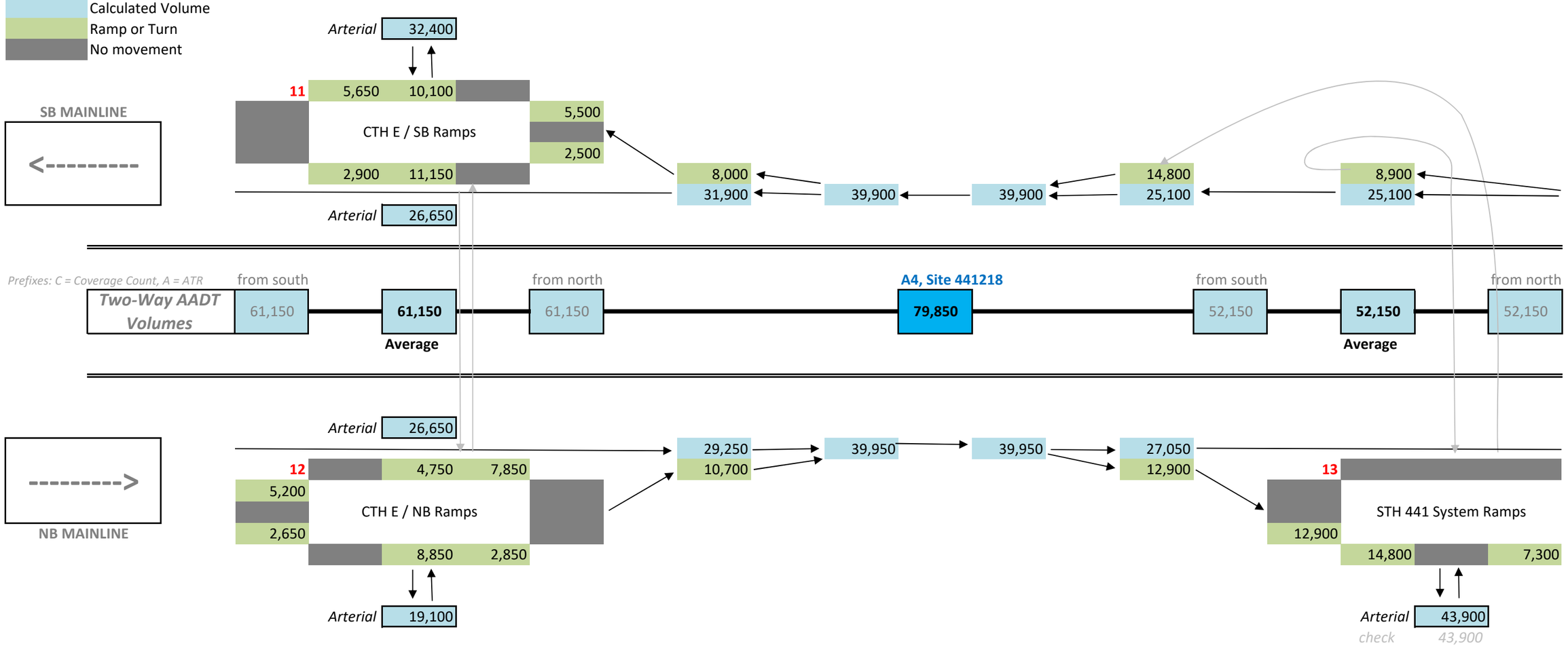
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

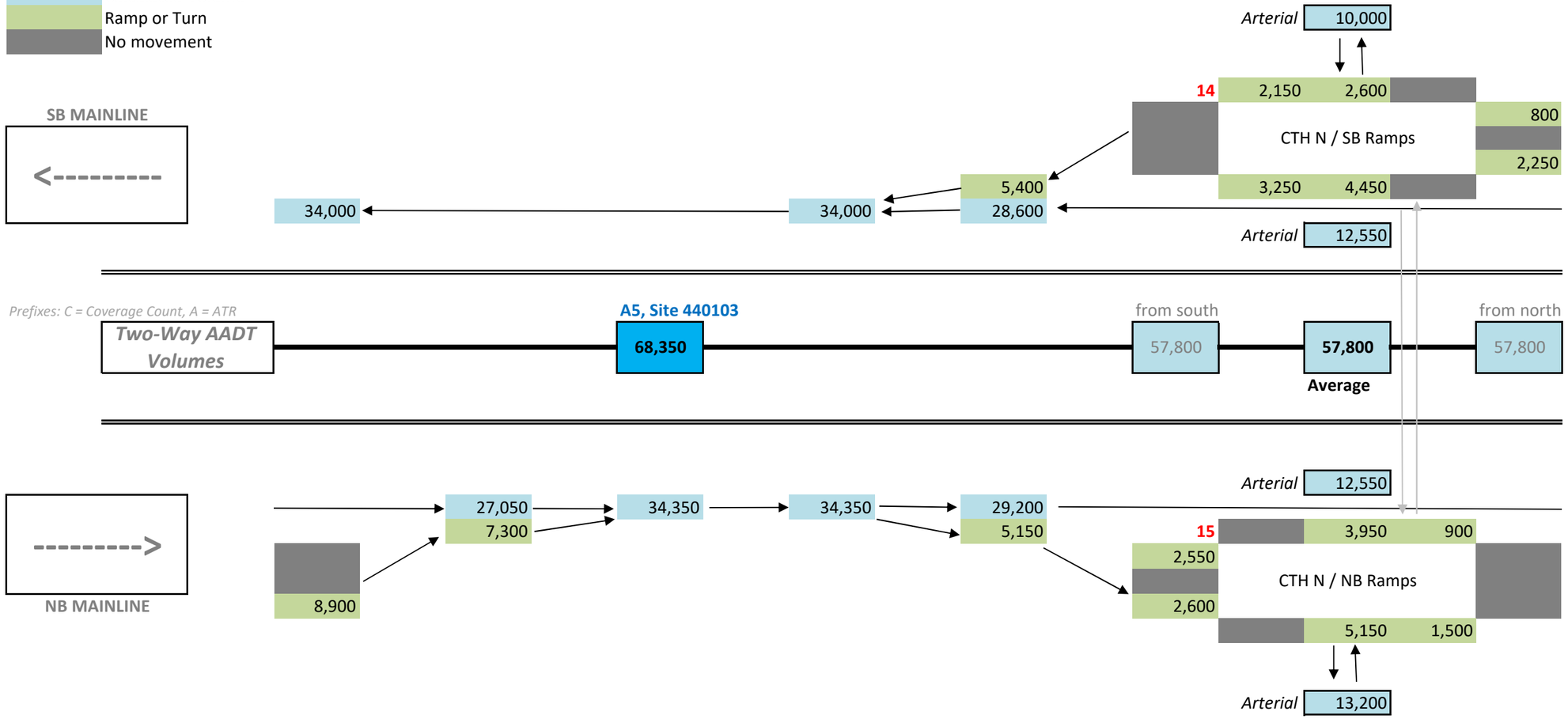
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

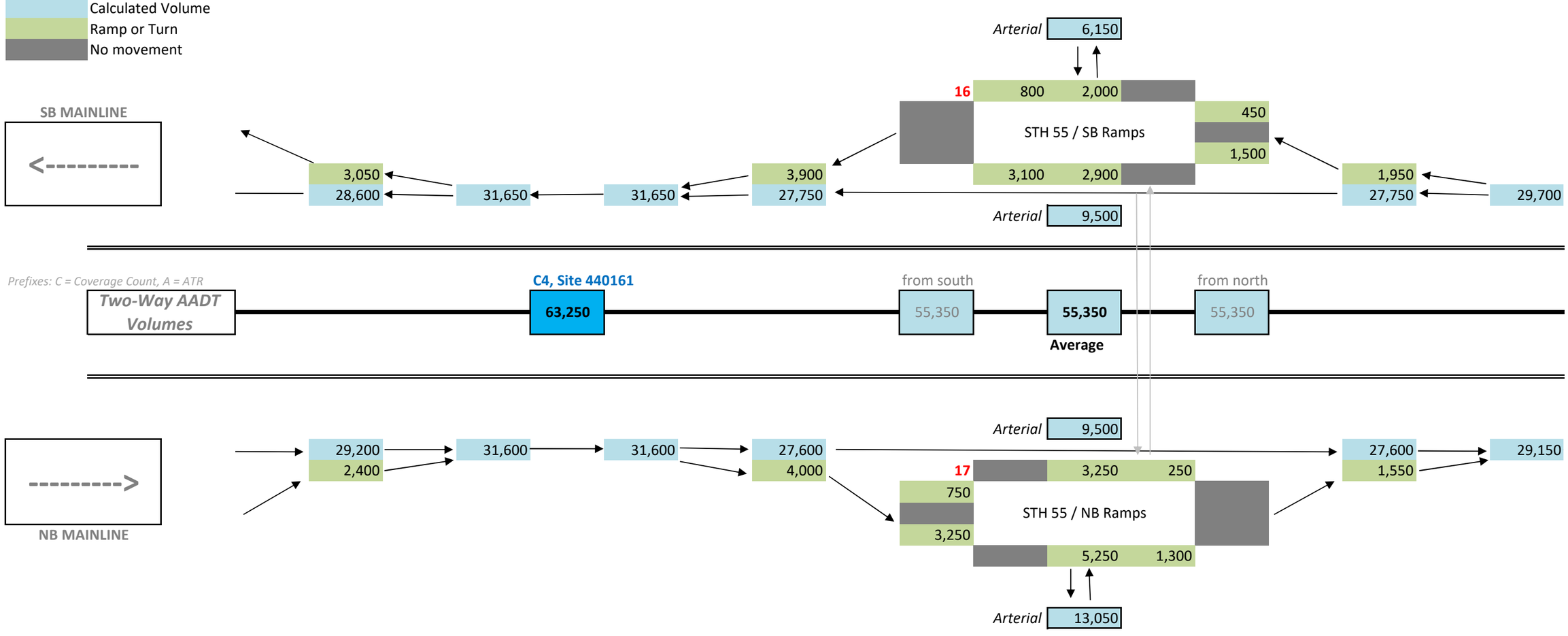
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

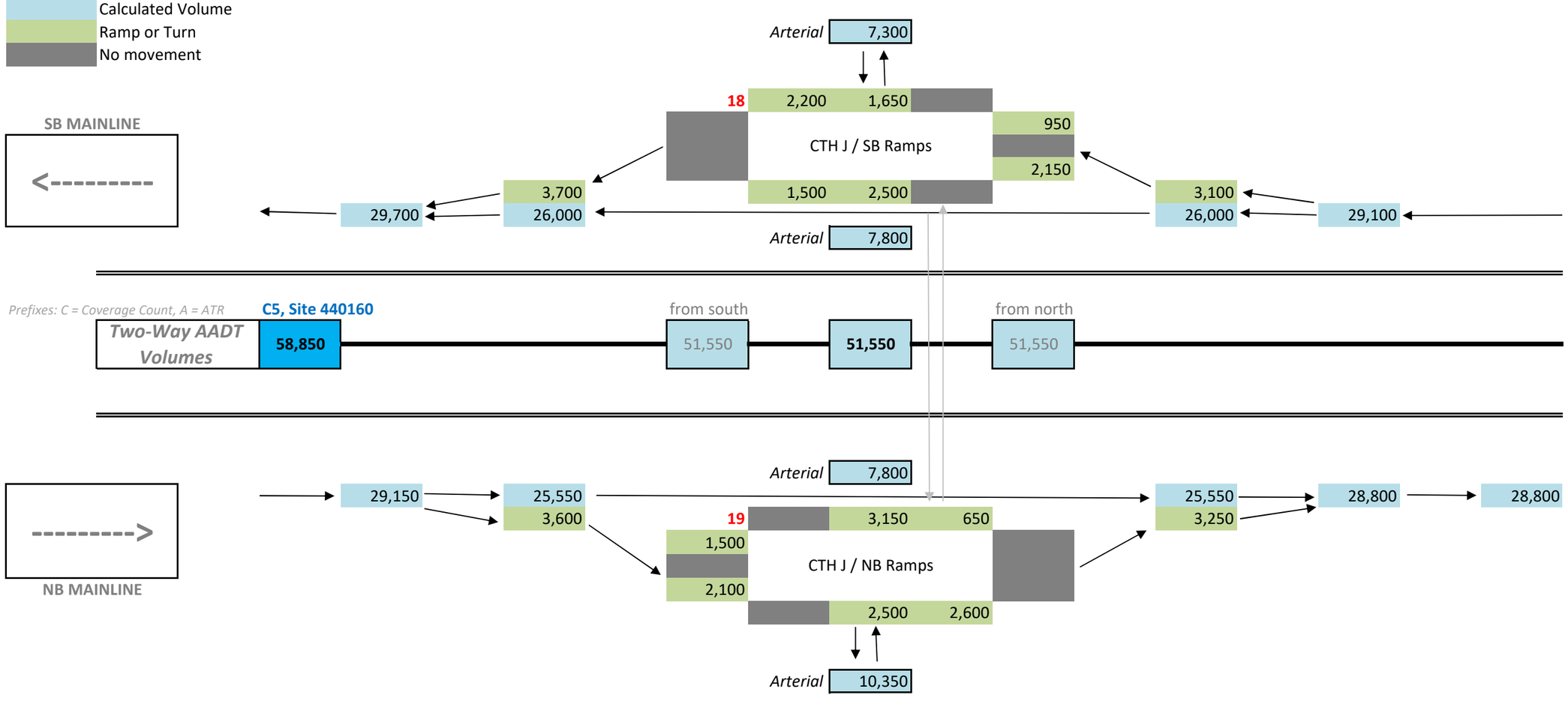
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

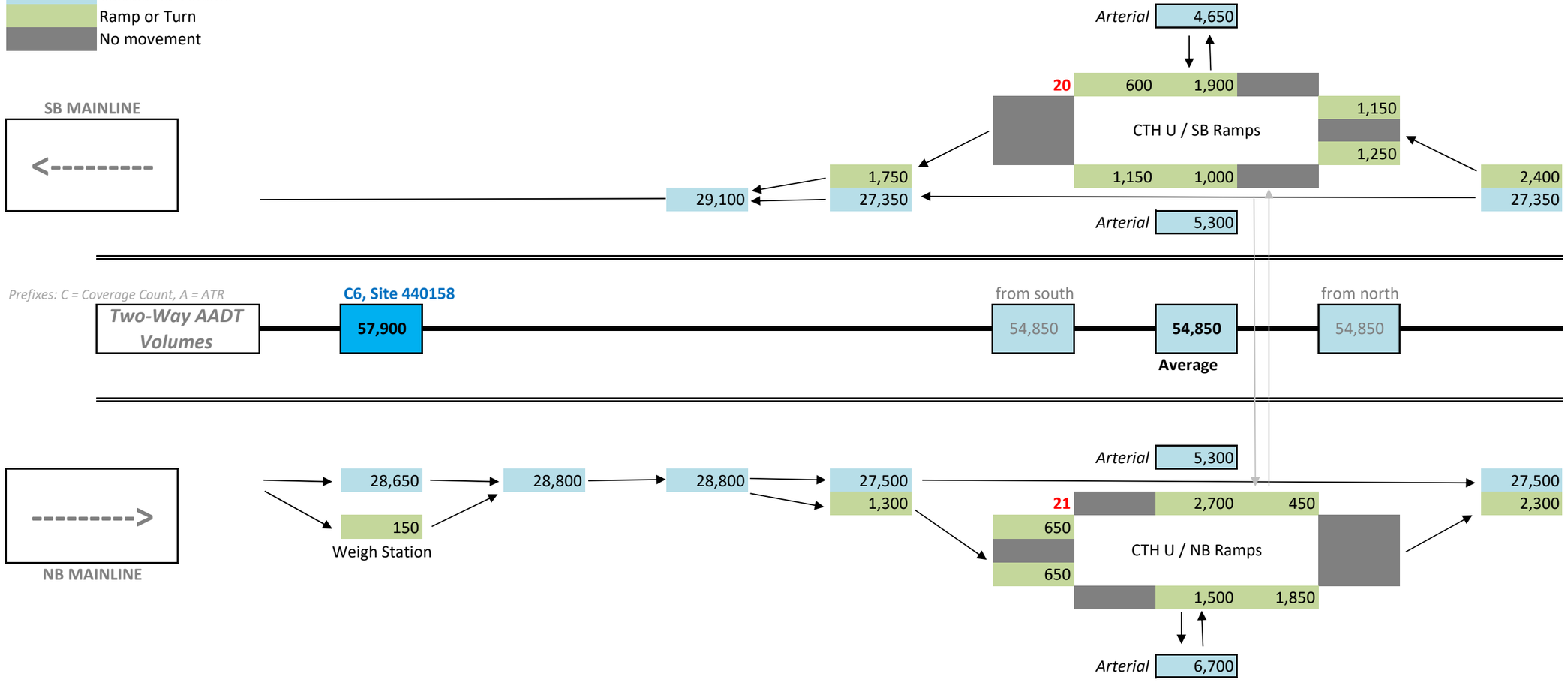
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

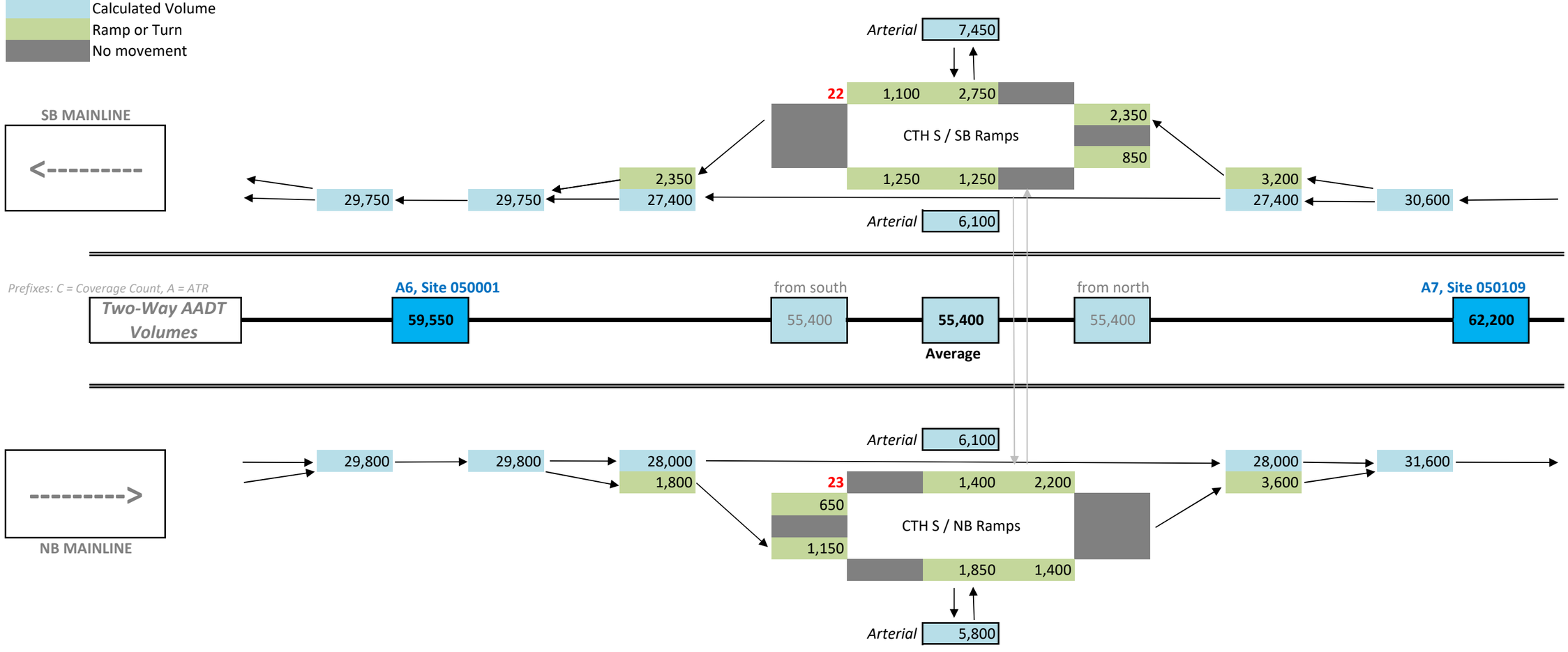
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 IHSDM Analysis: 2048 Traffic Input Summary (Daily Volumes and High-Volume Hours)

FUTURE NO-BUILD ALTERNATIVE

May 2019 (Draft)

	IHSDM AADT Volume Inputs									
Segment	Station Start	Station End	No-Build Year	2-way AADT (vpd)	Mainline Description	Ramp Notes	Weekday Trends (Count #)	Weekend Trends (ATR #)	# Lanes (2-way)	Percent High Volume Hours
1a	392+00	419+00	2048	88,950	South of CTH BB		ATR 1	ATR 1	6	0.31
1b	419+00	419+10	2048	82,550	CTH BB southern ramps, between gores	Includes SB on, Excludes NB off		(6-lane)	6	0.25
2a	419+10	441+50	2048	76,950	At CTH BB		CC 1	ATR 2 (6-lane)	6	0.13
2b	441+50	445+35	2048	83,500	CTH BB northern ramps, between gores	Includes SB off, Excludes NB on			6	0.25
2c	445+35	477+75	2048	90,600	CTH BB to STH 125				6	0.25
2d	477+75	483+95	2048	82,750	STH 125 southern ramps, between gores	Includes NB off, Excludes SB on			6	0.25
3a	483+95	505+55	2048	73,200	At STH 125		ATR 2		6	0.13
3b	505+55	510+55	2048	79,350	STH 125 northern ramps, between gores	Includes SB off, Excludes NB on			6	0.26
3c	510+55	521+85	2048	85,900	STH 125 to STH 96				6	0.26
3d	521+85	523+00	2048	77,500	STH 96 southern ramps, between gores	Includes NB off, Excludes SB on			6	0.20
4a	523+00	546+35	2048	69,150	At STH 96		ATR 3	ATR 3 (6-lane)	6	0.07
4b	546+35	550+75	2048	76,400	STH 96 northern ramps, between gores	Includes SB off, Excludes NB on			6	0.07
4c	550+75	576+30	2048	83,200	STH 96 to STH 15				6	0.25
4d	576+30	591+30	2048	73,000	STH 15 southern ramps, between gores	Includes SB on, Excludes NB off			5	0.25
5a	591+30	603+65	2048	64,850	At STH 15		CC 2	ATR 4 (4-lane)	4	0.30
5b	603+65	605+10	2048	76,100	STH 15 northern ramps, between gores	Includes NB on, Excludes SB off			4	0.66
5c	605+10	722+28	2048	89,900	STH 15 to STH 47				4	0.78
5d	735+45	735+85	2048	82,100	STH 47 southern ramps, between gores	Includes SB on, Excludes NB off			4	0.76
6a	735+85	759+40	2048	73,350	At STH 47		CC 3		4	0.54
6b	759+40	762+30	2048	81,900	STH 47 northern ramps, between gores	Includes NB on, Excludes SB off			4	0.76
6c	775+40	843+80	2048	90,600	STH 47 to CTH E				4	0.79
6d	843+80	844+30	2048	80,750	CTH E southern ramps, between gores	Includes SB on, Excludes NB off			4	0.68
7a	844+30	863+45	2048	69,950	At CTH E		ATR 4		4	0.50
7b	863+45	863+60	2048	80,350	CTH E northern ramps, between gores	Includes SB off, Excludes NB on			4	0.73
7c	863+60	884+15	2048	93,400	CTH E to STH 441				4	0.79
7d	884+15	890+25	2048	74,650	STH 441 southern ramps, between gores	Includes NB off, Excludes SB on			4	0.64
8a	890+25	904+25	2048	58,250	At STH 441		ATR 5	ATR 5 (4-lane)	4	0.26
8b	904+25	917+20	2048	68,850	STH 441 northern ramps, between gores	Includes SB off, Excludes NB on			4	0.40
8c	917+20	1006+00	2048	77,250	STH 441 to CTH N				4	0.62
8d	1006+00	1006+65	2048	71,000	CTH N southern ramps, between gores	Includes NB off, Excludes SB on			4	0.47
9a	1006+65	1027+30	2048	64,950	At CTH N		CC 4		4	0.36
9b	1027+30	1027+45	2048	68,500	CTH N northern ramps, between gores	Includes NB on, Excludes SB off			4	0.41
9c	1027+45	1112+20	2048	72,750	CTH N to STH 55				4	0.42
9d	1112+20	1114+35	2048	68,000	STH 55 southern ramps, between gores	Includes NB off, Excludes SB on			4	0.36
10a	1114+35	1131+50	2048	63,250	At STH 55		CC 5	ATR 6 (4-lane)	4	0.32
10b	1131+50	1135+75	2048	65,950	STH 55 northern ramps, between gores	Includes SB off, Excludes NB on			4	0.37
10c	1135+75	1175+85	2048	68,100	STH 55 to CTH J				4	0.41
10d	1175+85	1176+35	2048	62,900	CTH J southern ramps, between gores	Includes SB on, Excludes NB off			4	0.32
11a	1176+35	1196+10	2048	57,750	At CTH J		CC 6		4	0.26
11b	1196+10	1197+20	2048	61,900	CTH J northern ramps, between gores	Includes NB on, Excludes SB off			4	0.31
11c	1197+20	1357+80	2048	66,000	CTH J to weigh station				4	0.31
11d	1357+80	1382+15	2048	65,850	At weigh station	Excludes weigh station volume (150 vpd)			4	0.31
11e	1382+15	1395+60	2048	66,000	Weigh station to CTH U				4	0.31
11f	1395+60	1397+75	2048	63,450	CTH U southern ramps, between gores	Includes NB off, Excludes SB on			4	0.31
12a	1397+75	1424+25	2048	61,450	At CTH U		ATR 6		4	0.26
12b	1424+25	1425+00	2048	65,150	CTH U northern ramps, between gores	Includes NB on, Excludes SB off			4	0.36
12c	1425+00	1552+20	2048	68,850	CTH U to CTH S				4	0.42
12d	1552+20	1554+10	2048	65,500	CTH S southern ramps, between gores	Includes NB off, Excludes SB on			4	0.36
13a	1554+10	1580+90	2048	62,950	At CTH S		ATR 7	ATR 7 (4-lane)	4	0.31
13b	1580+90	1584+60	2048	66,700	CTH S northern ramps, between gores	Includes SB off, Excludes NB on			4	0.36
13c	1584+60	1736+57	2048	71,000	CTH S to CTH F				4	0.44

Prefixes: CC = Coverage Count, ATR = Automatic Traffic Recorder

**See High-Volume Hours attachment for the No-Build Alternative to view the high-volume hours calculations for each individual traffic volume segment.*

I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	No-Build (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

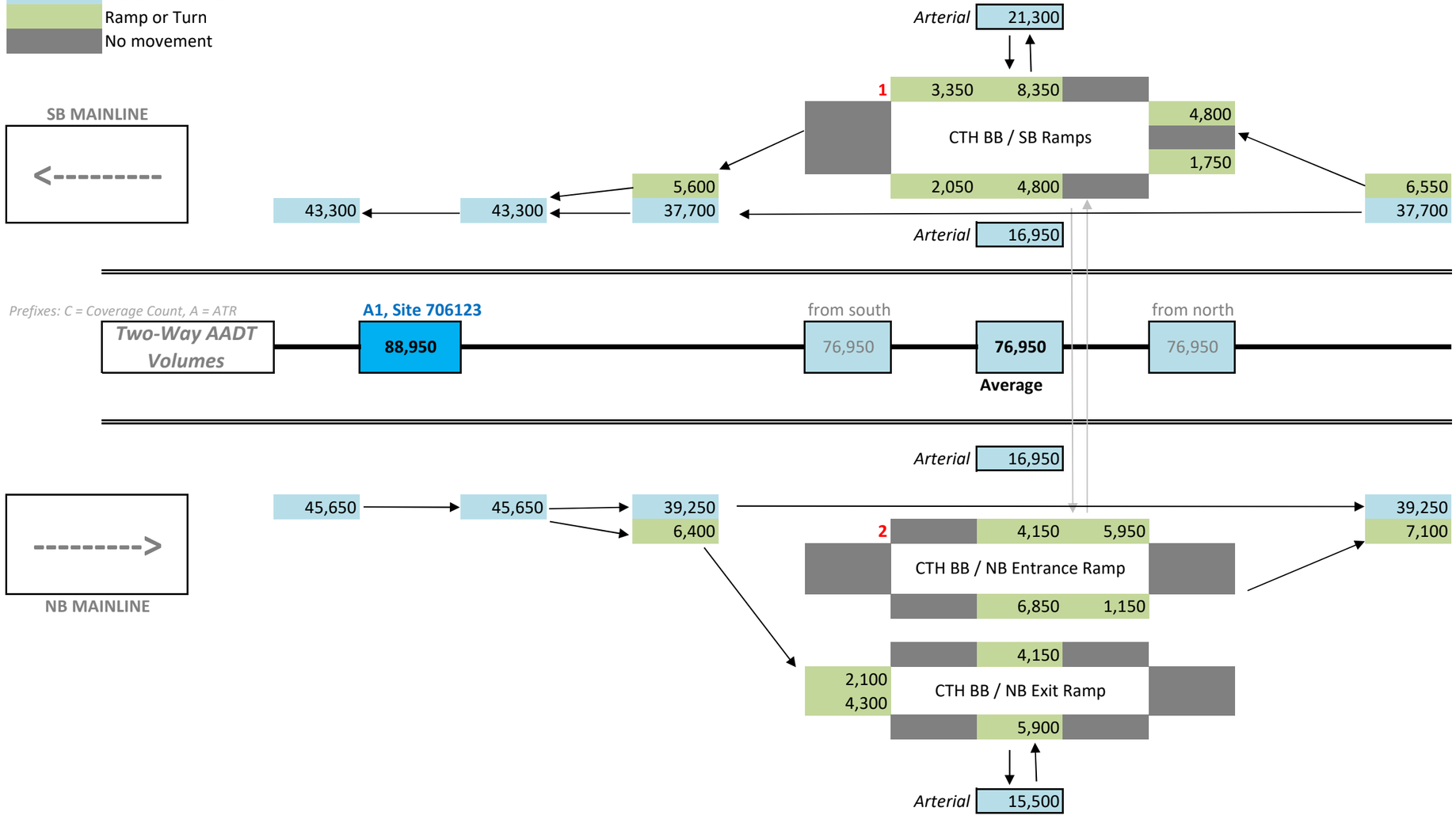
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	No-Build (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

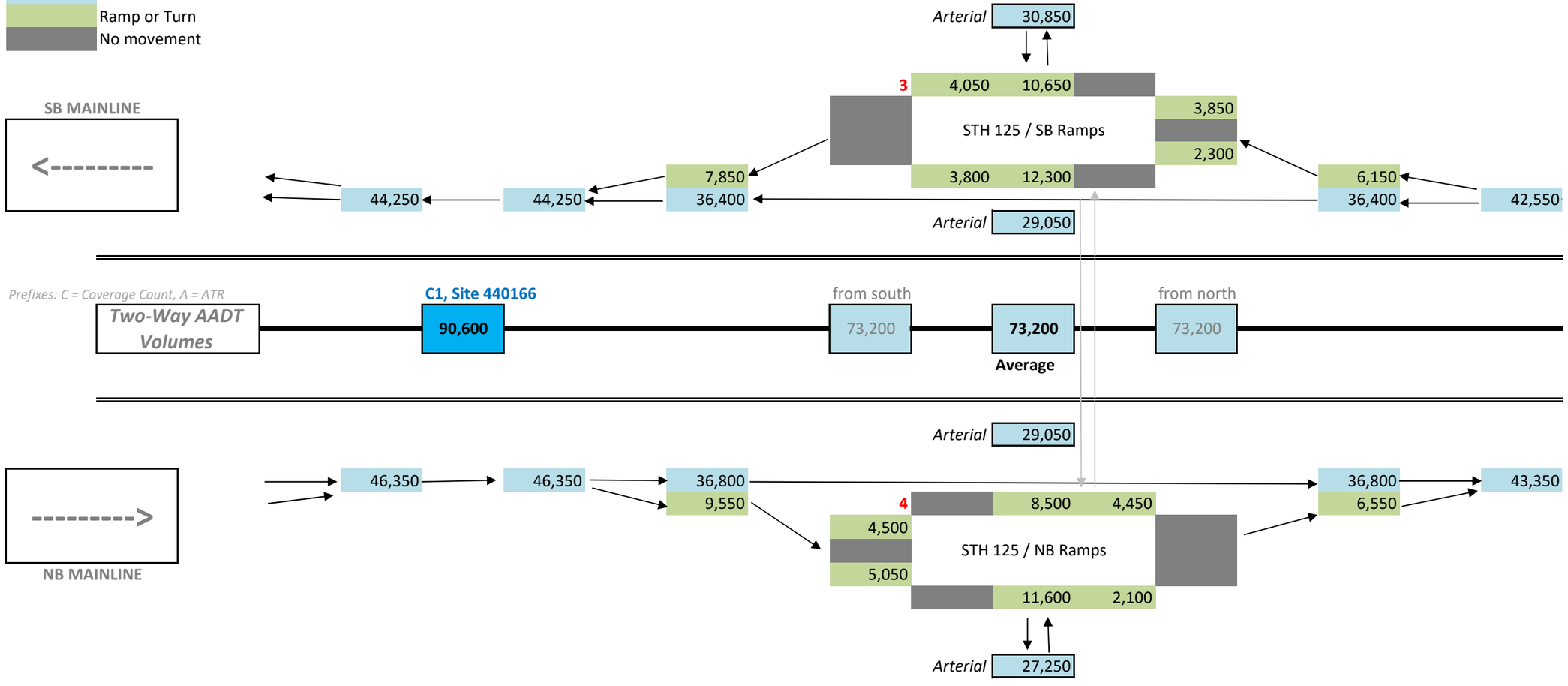
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	No-Build (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

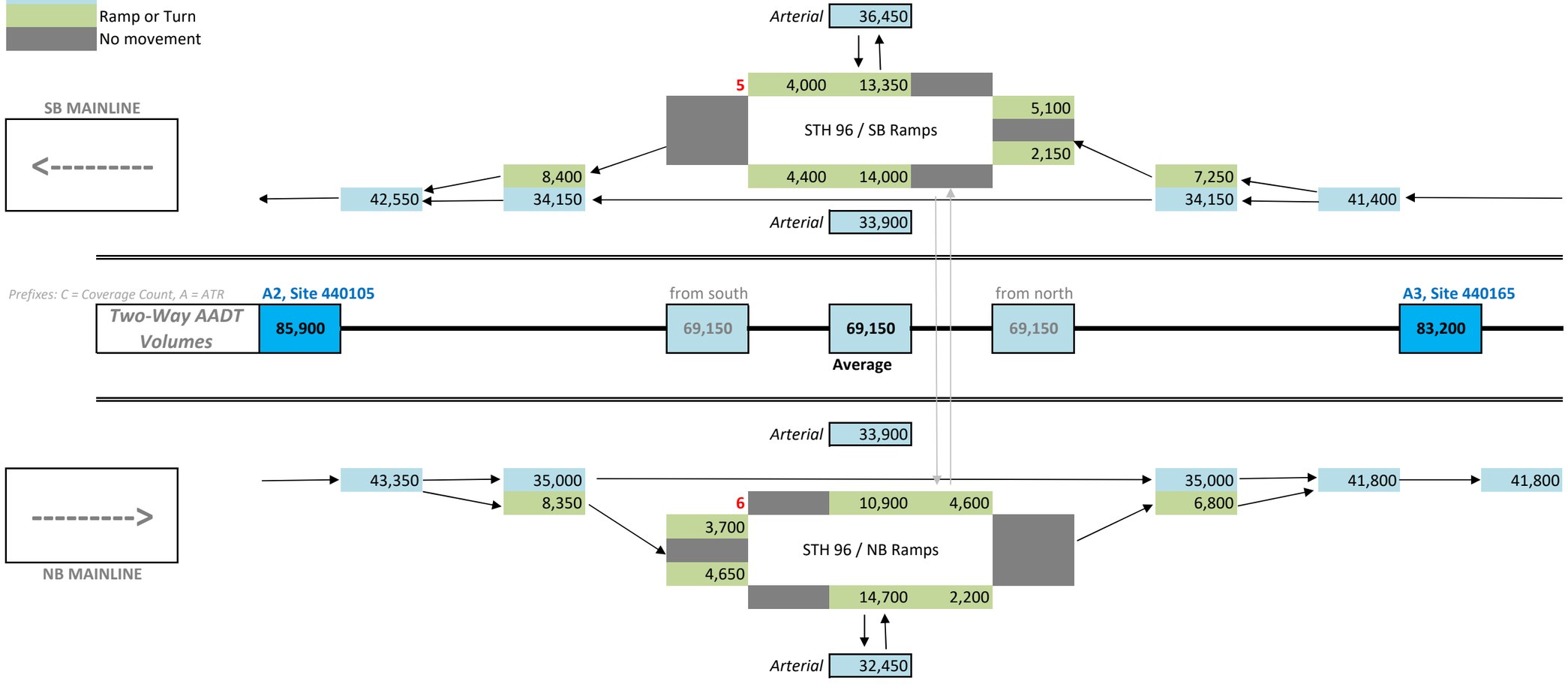
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	No-Build (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

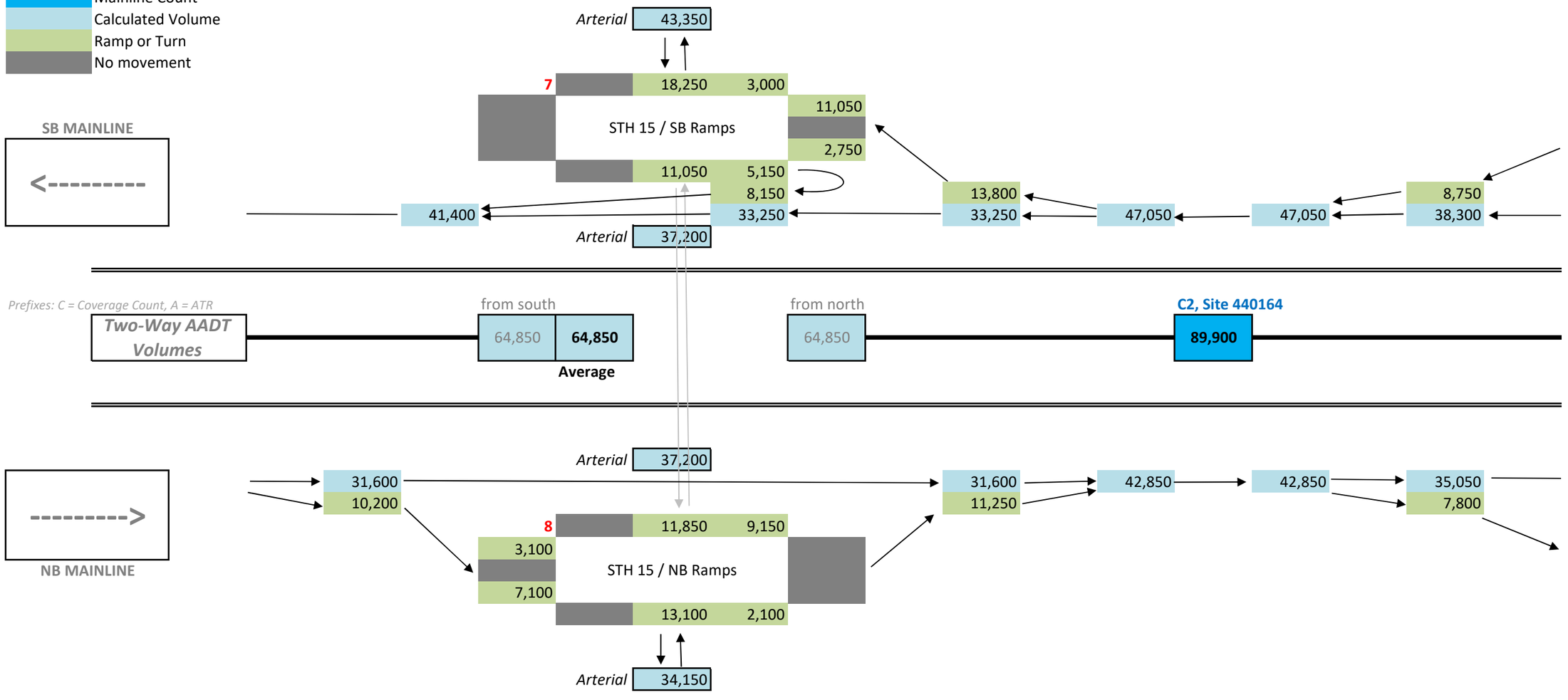
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	No-Build (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

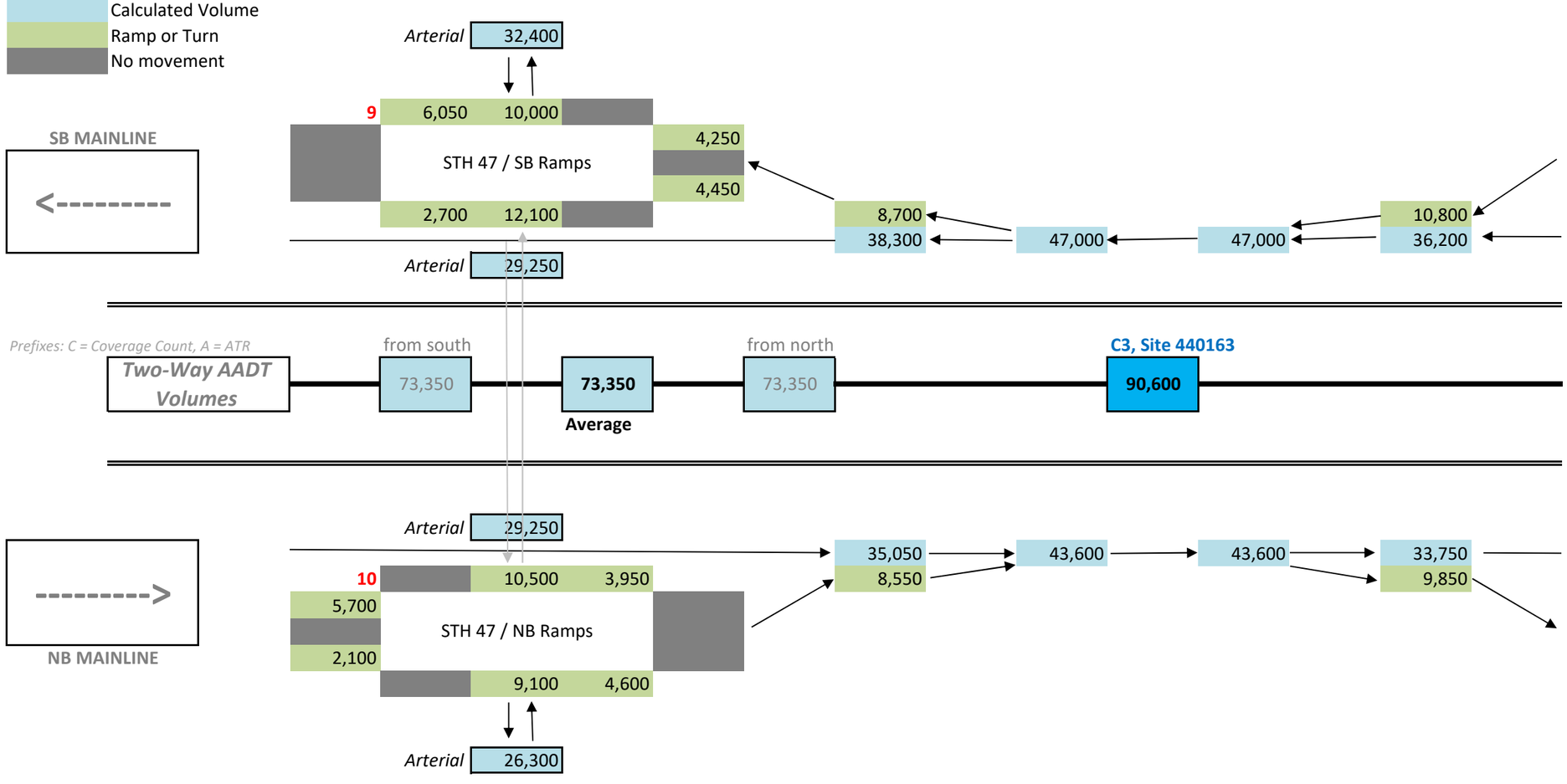
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	No-Build (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

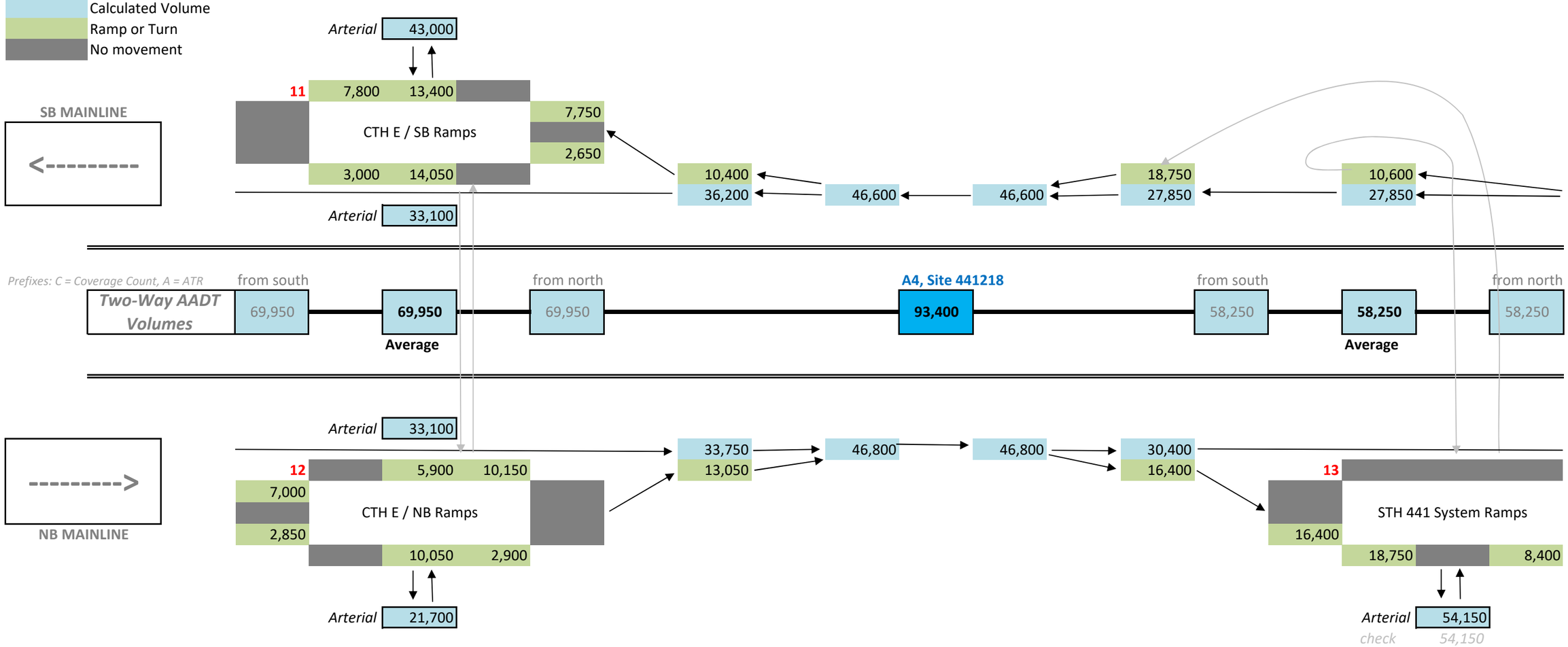
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	No-Build (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

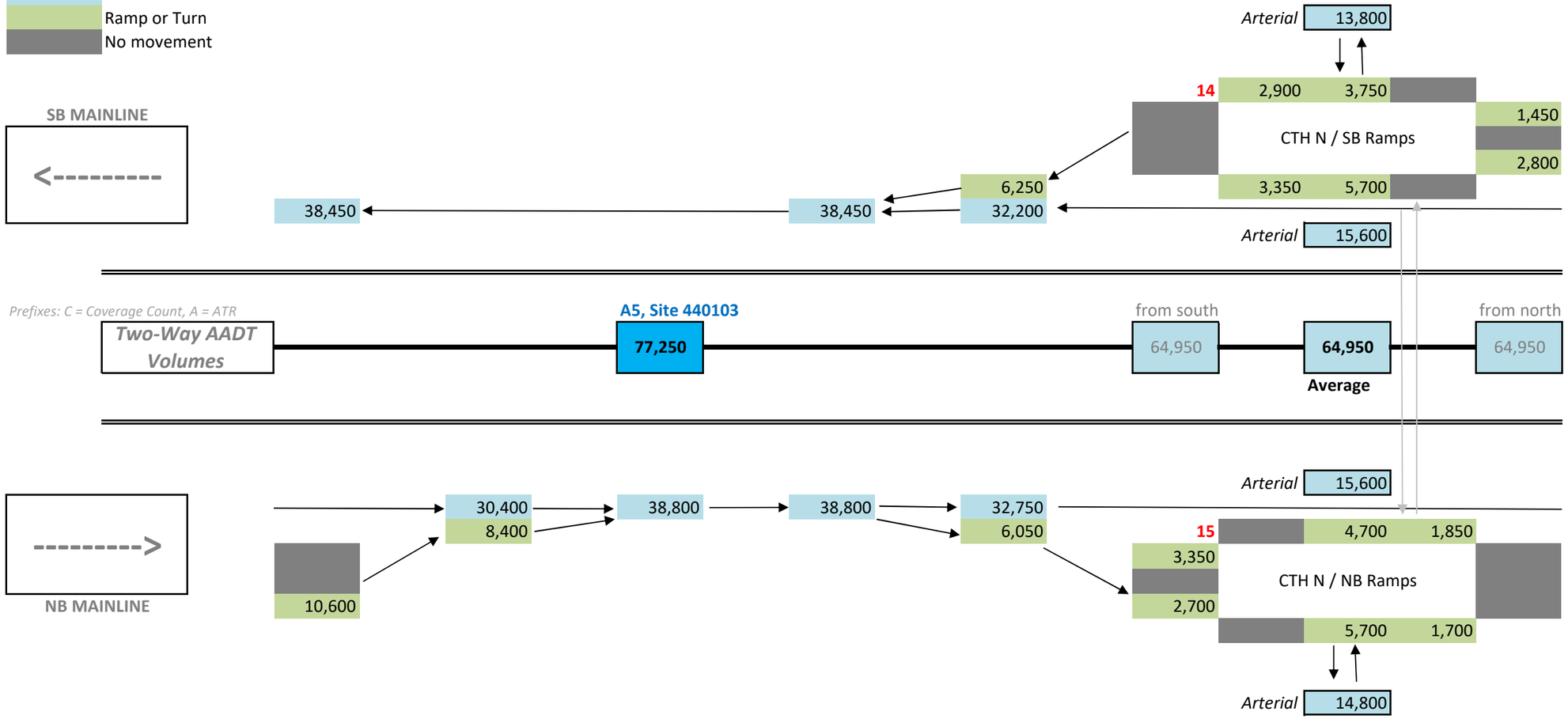
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	No-Build (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

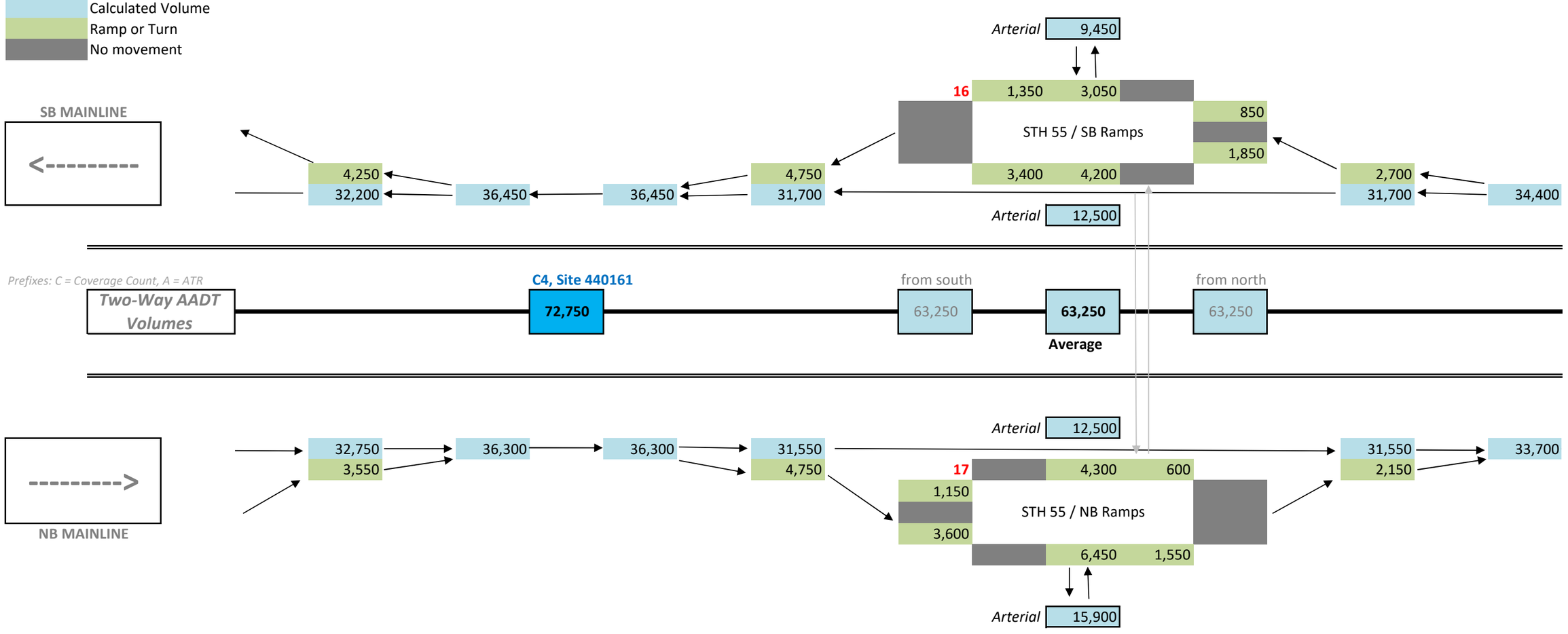
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	No-Build (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

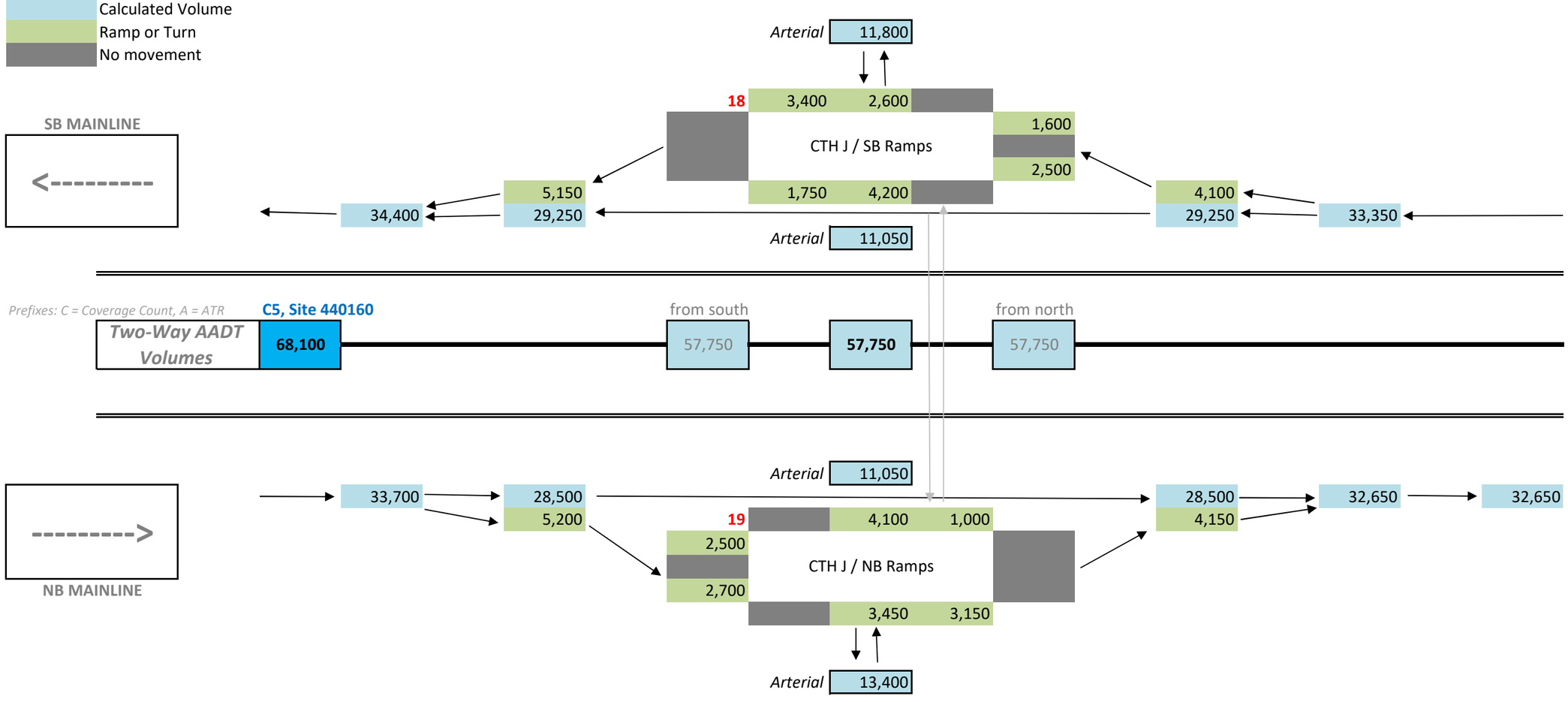
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	No-Build (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

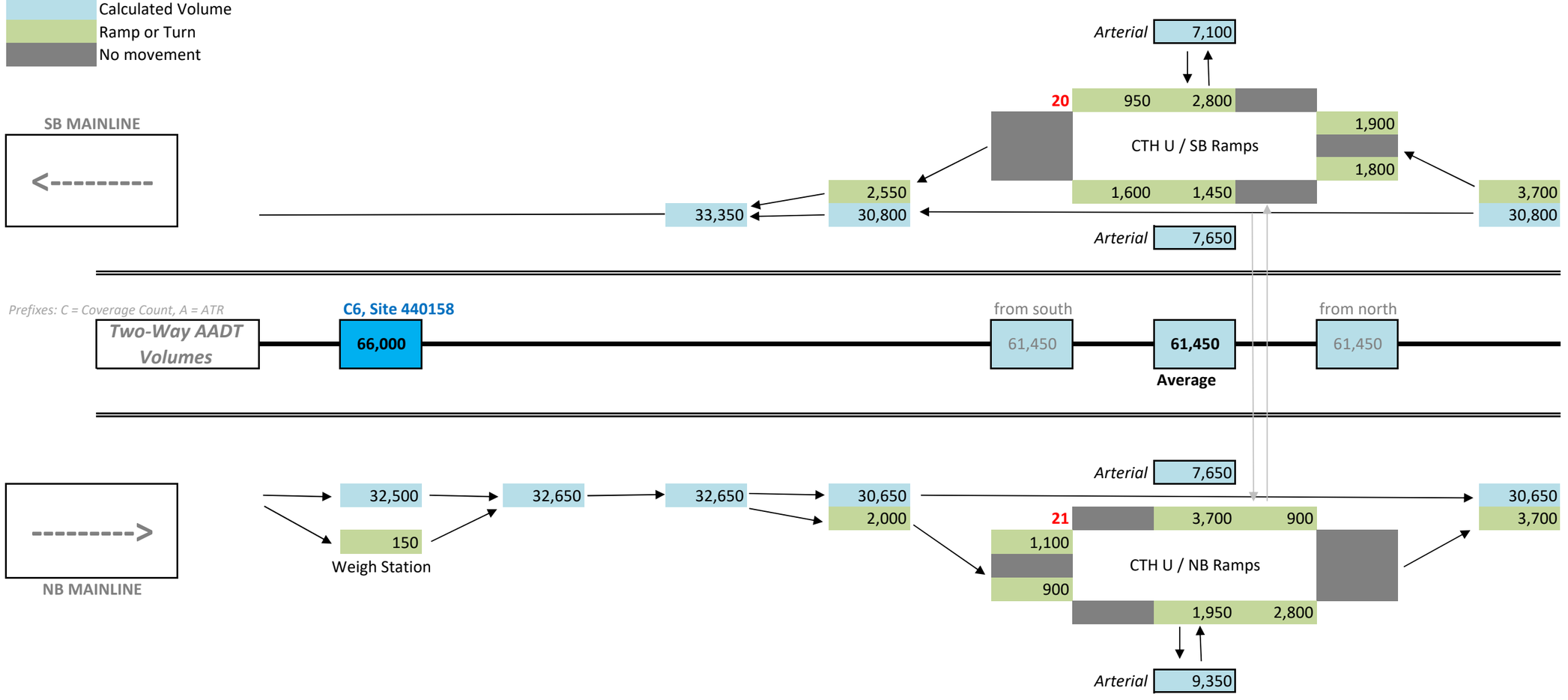
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



I-41 Daily Traffic

May 2019 (Draft)

Volume Scenario	No-Build (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

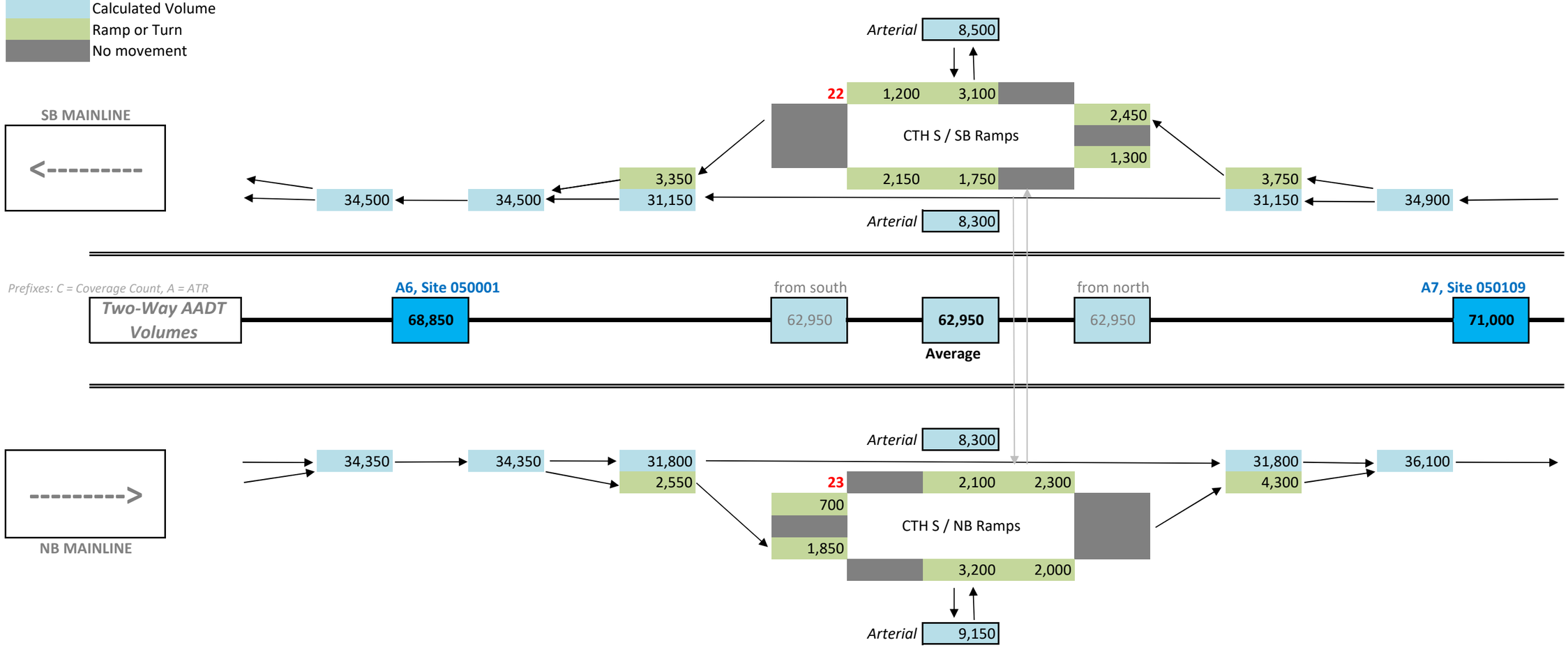
Diagram not to scale

Mainline Count

Calculated Volume

Ramp or Turn

No movement



ATTACHMENT G
FUTURE NO-BUILD HIGH-VOLUME HOUR WORKSHEETS

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	1a
Target AADT	79,950

2018 Annual ATR Data	
Location	USH 41 - South of CTH BB
Site #	706123
Trend ID	1 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	209	239	**447**	324	310	**634**	288	316	**604**
01:00-01:59	176	205	**381**	216	205	**421**	191	200	**391**
02:00-02:59	142	181	**323**	166	189	**355**	137	187	**324**
03:00-03:59	212	260	**472**	172	185	**357**	105	134	**239**
04:00-04:59	476	596	**1,073**	228	269	**497**	127	165	**292**
05:00-05:59	1,030	1,276	**2,306**	392	449	**841**	238	289	**527**
06:00-06:59	1,939	2,230	**4,170**	626	755	**1,381**	354	425	**779**
07:00-07:59	3,100	3,400	**6,499**	1,012	1,095	**2,107**	587	610	**1,197**
08:00-08:59	2,440	2,538	**4,978**	1,459	1,536	**2,995**	911	1,014	**1,925**
09:00-09:59	2,087	2,058	**4,145**	2,000	1,912	**3,912**	1,525	1,438	**2,963**
10:00-10:59	2,177	2,182	**4,358**	2,463	2,284	**4,747**	1,994	1,989	**3,983**
11:00-11:59	2,319	2,439	**4,757**	2,635	2,466	**5,101**	2,225	2,397	**4,622**
12:00-12:59	2,403	2,633	**5,036**	2,613	2,644	**5,257**	2,271	2,593	**4,864**
13:00-13:59	2,436	2,820	**5,256**	2,494	2,647	**5,141**	2,100	2,596	**4,696**
14:00-14:59	2,709	3,145	**5,853**	2,375	2,640	**5,015**	2,014	2,681	**4,695**
15:00-15:59	3,204	3,448	**6,652**	2,289	2,593	**4,882**	1,992	2,744	**4,736**
16:00-16:59	3,679	3,927	**7,606**	2,183	2,512	**4,695**	1,901	2,660	**4,561**
17:00-17:59	3,162	3,396	**6,558**	1,971	2,302	**4,273**	1,673	2,300	**3,973**
18:00-18:59	1,997	2,203	**4,200**	1,621	1,933	**3,554**	1,377	1,889	**3,266**
19:00-19:59	1,313	1,616	**2,929**	1,210	1,547	**2,757**	1,055	1,412	**2,467**
20:00-20:59	953	1,396	**2,349**	955	1,350	**2,305**	804	990	**1,794**
21:00-21:59	734	1,083	**1,818**	775	1,185	**1,960**	568	728	**1,296**
22:00-22:59	580	720	**1,300**	625	872	**1,497**	398	455	**853**
23:00-23:59	366	387	**754**	455	539	**994**	230	276	**506**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	142%	135%
0.5%	110%	103%
0.4%	110%	100%
0.6%	76%	51%
1.3%	46%	27%
2.7%	36%	23%
5.0%	33%	19%
7.7%	32%	18%
5.9%	60%	39%
4.9%	94%	71%
5.2%	109%	91%
5.6%	107%	97%
6.0%	104%	97%
6.2%	98%	89%
6.9%	86%	80%
7.9%	73%	71%
9.0%	62%	60%
7.8%	65%	61%
5.0%	85%	78%
3.5%	94%	84%
2.8%	98%	76%
2.2%	108%	71%
1.5%	115%	66%
0.9%	132%	67%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	425	602	573
01:00-01:59	362	400	371
02:00-02:59	307	337	308
03:00-03:59	448	339	227
04:00-04:59	1,018	472	277
05:00-05:59	2,189	798	500
06:00-06:59	3,958	1,311	740
07:00-07:59	6,170	2,000	1,136
08:00-08:59	4,726	2,843	1,827
09:00-09:59	3,935	3,714	2,813
10:00-10:59	4,137	4,506	3,781
11:00-11:59	4,516	4,842	4,388
12:00-12:59	4,781	4,990	4,617
13:00-13:59	4,989	4,880	4,458
14:00-14:59	5,556	4,761	4,457
15:00-15:59	6,314	4,634	4,496
16:00-16:59	7,220	4,457	4,330
17:00-17:59	6,226	4,056	3,772
18:00-18:59	3,987	3,374	3,100
19:00-19:59	2,781	2,617	2,342
20:00-20:59	2,230	2,188	1,703
21:00-21:59	1,726	1,861	1,230
22:00-22:59	1,234	1,421	810
23:00-23:59	716	944	480
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	129,651	0	0	129,651
Total Volume	399,750	62,348	52,736	514,835
				25%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	1b
Target AADT	73,750

2018 Annual ATR Data	
Location	USH 41 - South of CTH BB
Site #	706123
Trend ID	1 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	209	239	**447**	324	310	**634**	288	316	**604**
01:00-01:59	176	205	**381**	216	205	**421**	191	200	**391**
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08:00-08:59	2,440	2,538	**4,978**	1,459	1,536	**2,995**	911	1,014	**1,925**
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12:00-12:59	2,403	2,633	**5,036**	2,613	2,644	**5,257**	2,271	2,593	**4,864**
13:00-13:59	2,436	2,820	**5,256**	2,494	2,647	**5,141**	2,100	2,596	**4,696**
14:00-14:59	2,709	3,145	**5,853**	2,375	2,640	**5,015**	2,014	2,681	**4,695**
15:00-15:59	3,204	3,448	**6,652**	2,289	2,593	**4,882**	1,992	2,744	**4,736**
16:00-16:59	3,679	3,927	**7,606**	2,183	2,512	**4,695**	1,901	2,660	**4,561**
17:00-17:59	3,162	3,396	**6,558**	1,971	2,302	**4,273**	1,673	2,300	**3,973**
18:00-18:59	1,997	2,203	**4,200**	1,621	1,933	**3,554**	1,377	1,889	**3,266**
19:00-19:59	1,313	1,616	**2,929**	1,210	1,547	**2,757**	1,055	1,412	**2,467**
20:00-20:59	953	1,396	**2,349**	955	1,350	**2,305**	804	990	**1,794**
21:00-21:59	734	1,083	**1,818**	775	1,185	**1,960**	568	728	**1,296**
22:00-22:59	580	720	**1,300**	625	872	**1,497**	398	455	**853**
23:00-23:59	366	387	**754**	455	539	**994**	230	276	**506**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

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0.5%	110%	103%
0.4%	110%	100%
0.6%	76%	51%
1.3%	46%	27%
2.7%	36%	23%
5.0%	33%	19%
7.7%	32%	18%
5.9%	60%	39%
4.9%	94%	71%
5.2%	109%	91%
5.6%	107%	97%
6.0%	104%	97%
6.2%	98%	89%
6.9%	86%	80%
7.9%	73%	71%
9.0%	62%	60%
7.8%	65%	61%
5.0%	85%	78%
3.5%	94%	84%
2.8%	98%	76%
2.2%	108%	71%
1.5%	115%	66%
0.9%	132%	67%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	392	555	529
01:00-01:59	334	369	342
02:00-02:59	283	311	284
03:00-03:59	413	313	209
04:00-04:59	939	435	256
05:00-05:59	2,019	736	461
06:00-06:59	3,651	1,209	682
07:00-07:59	5,691	1,845	1,048
08:00-08:59	4,359	2,623	1,686
09:00-09:59	3,630	3,426	2,595
10:00-10:59	3,817	4,157	3,488
11:00-11:59	4,166	4,467	4,047
12:00-12:59	4,410	4,603	4,259
13:00-13:59	4,602	4,502	4,112
14:00-14:59	5,126	4,392	4,111
15:00-15:59	5,825	4,275	4,147
16:00-16:59	6,660	4,111	3,994
17:00-17:59	5,743	3,742	3,479
18:00-18:59	3,678	3,112	2,860
19:00-19:59	2,565	2,414	2,160
20:00-20:59	2,057	2,018	1,571
21:00-21:59	1,592	1,716	1,135
22:00-22:59	1,138	1,311	747
23:00-23:59	660	870	443
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	33,302	0	0	33,302
Total Volume	368,750	57,513	48,647	474,910
				7%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	2a
Target AADT	68,500

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH BB & STH 125
Site #	440166
Trend ID	1 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	262	252	**252**			**337**			**330**
01:00-01:59	193	178	**371**			**395**			**382**
02:00-02:59	174	155	**328**			**336**			**295**
03:00-03:59	170	333	**503**			**362**			**229**
04:00-04:59	446	652	**1,098**			**484**			**282**
05:00-05:59	1,098	1,430	**2,528**			**866**			**548**
06:00-06:59	1,996	2,575	**4,571**			**1,452**			**798**
07:00-07:59	3,129	3,692	**6,821**			**2,174**			**1,261**
08:00-08:59	2,619	2,494	**5,112**			**3,074**			**1,984**
09:00-09:59	2,302	2,139	**4,441**			**4,152**			**3,232**
10:00-10:59	2,327	2,125	**4,452**			**4,703**			**4,085**
11:00-11:59	2,585	2,348	**4,932**			**5,050**			**4,693**
12:00-12:59	2,564	2,606	**5,170**			**5,062**			**4,862**
13:00-13:59	2,622	2,854	**5,476**			**4,968**			**4,700**
14:00-14:59	3,017	2,882	**5,898**			**4,714**			**4,550**
15:00-15:59	3,408	3,152	**6,560**			**4,404**			**4,442**
16:00-16:59	4,343	3,762	**8,104**			**4,667**			**4,662**
17:00-17:59	3,763	3,401	**7,163**			**4,355**			**4,250**
18:00-18:59	2,411	2,204	**4,615**			**3,696**			**3,596**
19:00-19:59	1,619	1,663	**3,282**			**3,015**			**2,902**
20:00-20:59	1,201	1,614	**2,815**			**2,726**			**2,265**
21:00-21:59	887	1,452	**2,339**			**2,544**			**1,739**
22:00-22:59	692	772	**1,464**			**1,695**			**1,006**
23:00-23:59	417	363	**779**			**1,036**			**537**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.2%	44%	26%
2.8%	34%	22%
5.1%	32%	17%
7.7%	32%	18%
5.7%	60%	39%
5.0%	94%	73%
5.0%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.6%	80%	77%
7.4%	67%	68%
9.1%	58%	58%
8.0%	61%	59%
5.2%	80%	78%
3.7%	92%	88%
3.2%	97%	80%
2.6%	109%	74%
1.6%	116%	69%
0.9%	133%	69%

**Trends from ATR 440105*

High Volume Hour Calculations

Hour	Mon-Fri	Saturdays	Sundays
	D		
00:00-00:59	194	259	254
01:00-01:59	285	304	294
02:00-02:59	252	258	227
03:00-03:59	386	279	176
04:00-04:59	844	372	217
05:00-05:59	1,944	666	422
06:00-06:59	3,515	1,117	614
07:00-07:59	5,245	1,672	970
08:00-08:59	3,931	2,364	1,526
09:00-09:59	3,415	3,193	2,486
10:00-10:59	3,424	3,617	3,141
11:00-11:59	3,793	3,884	3,609
12:00-12:59	3,976	3,893	3,740
13:00-13:59	4,211	3,821	3,615
14:00-14:59	4,536	3,625	3,499
15:00-15:59	5,045	3,387	3,417
16:00-16:59	6,233	3,589	3,585
17:00-17:59	5,509	3,349	3,269
18:00-18:59	3,549	2,843	2,766
19:00-19:59	2,524	2,319	2,232
20:00-20:59	2,165	2,096	1,742
21:00-21:59	1,798	1,957	1,337
22:00-22:59	1,126	1,304	774
23:00-23:59	599	797	413
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	31,163	0	0	31,163
Total Volume	342,500	50,965	44,322	437,787
				7%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	2b
Target AADT	74,250

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH BB & STH 125
Site #	440166
Trend ID	1 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	262	252	**252**			**337**			**330**
01:00-01:59	193	178	**371**			**395**			**382**
02:00-02:59	174	155	**328**			**336**			**295**
03:00-03:59	170	333	**503**			**362**			**229**
04:00-04:59	446	652	**1,098**			**484**			**282**
05:00-05:59	1,098	1,430	**2,528**			**866**			**548**
06:00-06:59	1,996	2,575	**4,571**			**1,452**			**798**
07:00-07:59	3,129	3,692	**6,821**			**2,174**			**1,261**
08:00-08:59	2,619	2,494	**5,112**			**3,074**			**1,984**
09:00-09:59	2,302	2,139	**4,441**			**4,152**			**3,232**
10:00-10:59	2,327	2,125	**4,452**			**4,703**			**4,085**
11:00-11:59	2,585	2,348	**4,932**			**5,050**			**4,693**
12:00-12:59	2,564	2,606	**5,170**			**5,062**			**4,862**
13:00-13:59	2,622	2,854	**5,476**			**4,968**			**4,700**
14:00-14:59	3,017	2,882	**5,898**			**4,714**			**4,550**
15:00-15:59	3,408	3,152	**6,560**			**4,404**			**4,442**
16:00-16:59	4,343	3,762	**8,104**			**4,667**			**4,662**
17:00-17:59	3,763	3,401	**7,163**			**4,355**			**4,250**
18:00-18:59	2,411	2,204	**4,615**			**3,696**			**3,596**
19:00-19:59	1,619	1,663	**3,282**			**3,015**			**2,902**
20:00-20:59	1,201	1,614	**2,815**			**2,726**			**2,265**
21:00-21:59	887	1,452	**2,339**			**2,544**			**1,739**
22:00-22:59	692	772	**1,464**			**1,695**			**1,006**
23:00-23:59	417	363	**779**			**1,036**			**537**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.3%	134%	131%
	0.4%	107%	103%
	0.4%	102%	90%
	0.6%	72%	45%
	1.2%	44%	26%
	2.8%	34%	22%
	5.1%	32%	17%
	7.7%	32%	18%
	5.7%	60%	39%
	5.0%	94%	73%
	5.0%	106%	92%
	5.5%	102%	95%
	5.8%	98%	94%
	6.1%	91%	86%
	6.6%	80%	77%
	7.4%	67%	68%
	9.1%	58%	58%
	8.0%	61%	59%
	5.2%	80%	78%
	3.7%	92%	88%
	3.2%	97%	80%
	2.6%	109%	74%
	1.6%	116%	69%
	0.9%	133%	69%

**Trends from ATR 440105*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	210	281	275
01:00-01:59	309	329	319
02:00-02:59	273	280	246
03:00-03:59	419	302	190
04:00-04:59	915	404	235
05:00-05:59	2,107	722	457
06:00-06:59	3,810	1,211	666
07:00-07:59	5,686	1,812	1,052
08:00-08:59	4,262	2,563	1,654
09:00-09:59	3,702	3,461	2,694
10:00-10:59	3,712	3,921	3,405
11:00-11:59	4,111	4,210	3,912
12:00-12:59	4,309	4,220	4,053
13:00-13:59	4,565	4,142	3,918
14:00-14:59	4,917	3,929	3,793
15:00-15:59	5,469	3,671	3,703
16:00-16:59	6,756	3,890	3,886
17:00-17:59	5,971	3,631	3,543
18:00-18:59	3,847	3,081	2,998
19:00-19:59	2,736	2,513	2,419
20:00-20:59	2,346	2,272	1,888
21:00-21:59	1,949	2,121	1,449
22:00-22:59	1,220	1,413	839
23:00-23:59	649	864	448
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	33,779	0	0	33,779
Total Volume	371,250	55,243	48,043	474,536
				7%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	2c
Target AADT	80,100

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH BB & STH 125
Site #	440166
Trend ID	1 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	262	252	**252**			**337**			**330**
01:00-01:59	193	178	**371**			**395**			**382**
02:00-02:59	174	155	**328**			**336**			**295**
03:00-03:59	170	333	**503**			**362**			**229**
04:00-04:59	446	652	**1,098**			**484**			**282**
05:00-05:59	1,098	1,430	**2,528**			**866**			**548**
06:00-06:59	1,996	2,575	**4,571**			**1,452**			**798**
07:00-07:59	3,129	3,692	**6,821**			**2,174**			**1,261**
08:00-08:59	2,619	2,494	**5,112**			**3,074**			**1,984**
09:00-09:59	2,302	2,139	**4,441**			**4,152**			**3,232**
10:00-10:59	2,327	2,125	**4,452**			**4,703**			**4,085**
11:00-11:59	2,585	2,348	**4,932**			**5,050**			**4,693**
12:00-12:59	2,564	2,606	**5,170**			**5,062**			**4,862**
13:00-13:59	2,622	2,854	**5,476**			**4,968**			**4,700**
14:00-14:59	3,017	2,882	**5,898**			**4,714**			**4,550**
15:00-15:59	3,408	3,152	**6,560**			**4,404**			**4,442**
16:00-16:59	4,343	3,762	**8,104**			**4,667**			**4,662**
17:00-17:59	3,763	3,401	**7,163**			**4,355**			**4,250**
18:00-18:59	2,411	2,204	**4,615**			**3,696**			**3,596**
19:00-19:59	1,619	1,663	**3,282**			**3,015**			**2,902**
20:00-20:59	1,201	1,614	**2,815**			**2,726**			**2,265**
21:00-21:59	887	1,452	**2,339**			**2,544**			**1,739**
22:00-22:59	692	772	**1,464**			**1,695**			**1,006**
23:00-23:59	417	363	**779**			**1,036**			**537**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.2%	44%	26%
2.8%	34%	22%
5.1%	32%	17%
7.7%	32%	18%
5.7%	60%	39%
5.0%	94%	73%
5.0%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.6%	80%	77%
7.4%	67%	68%
9.1%	58%	58%
8.0%	61%	59%
5.2%	80%	78%
3.7%	92%	88%
3.2%	97%	80%
2.6%	109%	74%
1.6%	116%	69%
0.9%	133%	69%

**Trends from ATR 440105*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	227	303	297
01:00-01:59	333	355	344
02:00-02:59	295	302	265
03:00-03:59	452	326	205
04:00-04:59	987	435	254
05:00-05:59	2,273	779	493
06:00-06:59	4,110	1,306	718
07:00-07:59	6,134	1,955	1,134
08:00-08:59	4,597	2,765	1,784
09:00-09:59	3,993	3,734	2,907
10:00-10:59	4,004	4,230	3,673
11:00-11:59	4,435	4,542	4,221
12:00-12:59	4,649	4,553	4,373
13:00-13:59	4,924	4,468	4,227
14:00-14:59	5,304	4,239	4,092
15:00-15:59	5,899	3,960	3,995
16:00-16:59	7,288	4,197	4,192
17:00-17:59	6,442	3,917	3,822
18:00-18:59	4,150	3,324	3,234
19:00-19:59	2,952	2,711	2,610
20:00-20:59	2,531	2,452	2,037
21:00-21:59	2,103	2,288	1,564
22:00-22:59	1,316	1,524	905
23:00-23:59	701	932	483
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	99,317	0	0	99,317
Total Volume	400,500	59,596	51,828	511,924
				19%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	2d
Target AADT	72,500

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH BB & STH 125
Site #	440166
Trend ID	1 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	262	252	**252**			**337**			**330**
01:00-01:59	193	178	**371**			**395**			**382**
02:00-02:59	174	155	**328**			**336**			**295**
03:00-03:59	170	333	**503**			**362**			**229**
04:00-04:59	446	652	**1,098**			**484**			**282**
05:00-05:59	1,098	1,430	**2,528**			**866**			**548**
06:00-06:59	1,996	2,575	**4,571**			**1,452**			**798**
07:00-07:59	3,129	3,692	**6,821**			**2,174**			**1,261**
08:00-08:59	2,619	2,494	**5,112**			**3,074**			**1,984**
09:00-09:59	2,302	2,139	**4,441**			**4,152**			**3,232**
10:00-10:59	2,327	2,125	**4,452**			**4,703**			**4,085**
11:00-11:59	2,585	2,348	**4,932**			**5,050**			**4,693**
12:00-12:59	2,564	2,606	**5,170**			**5,062**			**4,862**
13:00-13:59	2,622	2,854	**5,476**			**4,968**			**4,700**
14:00-14:59	3,017	2,882	**5,898**			**4,714**			**4,550**
15:00-15:59	3,408	3,152	**6,560**			**4,404**			**4,442**
16:00-16:59	4,343	3,762	**8,104**			**4,667**			**4,662**
17:00-17:59	3,763	3,401	**7,163**			**4,355**			**4,250**
18:00-18:59	2,411	2,204	**4,615**			**3,696**			**3,596**
19:00-19:59	1,619	1,663	**3,282**			**3,015**			**2,902**
20:00-20:59	1,201	1,614	**2,815**			**2,726**			**2,265**
21:00-21:59	887	1,452	**2,339**			**2,544**			**1,739**
22:00-22:59	692	772	**1,464**			**1,695**			**1,006**
23:00-23:59	417	363	**779**			**1,036**			**537**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.2%	44%	26%
2.8%	34%	22%
5.1%	32%	17%
7.7%	32%	18%
5.7%	60%	39%
5.0%	94%	73%
5.0%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.6%	80%	77%
7.4%	67%	68%
9.1%	58%	58%
8.0%	61%	59%
5.2%	80%	78%
3.7%	92%	88%
3.2%	97%	80%
2.6%	109%	74%
1.6%	116%	69%
0.9%	133%	69%

**Trends from ATR 440105*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	205	274	268
01:00-01:59	302	321	311
02:00-02:59	267	273	240
03:00-03:59	409	295	186
04:00-04:59	894	394	230
05:00-05:59	2,057	705	446
06:00-06:59	3,720	1,182	650
07:00-07:59	5,552	1,769	1,027
08:00-08:59	4,161	2,502	1,615
09:00-09:59	3,614	3,380	2,631
10:00-10:59	3,624	3,828	3,325
11:00-11:59	4,015	4,111	3,820
12:00-12:59	4,208	4,121	3,958
13:00-13:59	4,457	4,044	3,826
14:00-14:59	4,801	3,837	3,703
15:00-15:59	5,340	3,585	3,616
16:00-16:59	6,597	3,799	3,795
17:00-17:59	5,831	3,545	3,459
18:00-18:59	3,756	3,009	2,927
19:00-19:59	2,671	2,454	2,362
20:00-20:59	2,291	2,219	1,844
21:00-21:59	1,903	2,071	1,415
22:00-22:59	1,191	1,380	819
23:00-23:59	634	843	437
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	32,983	0	0	32,983
Total Volume	362,500	53,941	46,911	463,352
				7%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

Segment	3a
Target AADT	63,100

2018 Annual ATR Data	
Location	USH 41 BTWN STH 125 & STH 96 APPLETON
Site #	440105
Trend ID	2 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	217	178	**395**	294	234	**528**	271	246	**517**
01:00-01:59	181	144	**326**	187	160	**347**	174	162	**336**
02:00-02:59	141	155	**296**	146	157	**303**	125	141	**266**
03:00-03:59	165	312	**477**	138	206	**344**	89	128	**217**
04:00-04:59	374	672	**1,046**	181	280	**461**	104	165	**269**
05:00-05:59	881	1,374	**2,255**	330	443	**773**	200	289	**489**
06:00-06:59	1,653	2,429	**4,082**	566	731	**1,297**	318	395	**713**
07:00-07:59	2,581	3,588	**6,169**	911	1,055	**1,966**	580	561	**1,141**
08:00-08:59	2,070	2,483	**4,553**	1,269	1,469	**2,738**	858	909	**1,767**
09:00-09:59	1,785	1,916	**3,701**	1,667	1,794	**3,461**	1,350	1,344	**2,694**
10:00-10:59	1,858	1,941	**3,799**	1,992	2,021	**4,013**	1,662	1,823	**3,485**
11:00-11:59	2,019	2,100	**4,119**	2,131	2,087	**4,218**	1,825	2,095	**3,920**
12:00-12:59	2,124	2,219	**4,343**	2,131	2,122	**4,253**	1,875	2,210	**4,085**
13:00-13:59	2,189	2,322	**4,511**	2,040	2,053	**4,093**	1,787	2,085	**3,872**
14:00-14:59	2,537	2,465	**5,003**	2,003	1,995	**3,998**	1,735	2,124	**3,859**
15:00-15:59	3,043	2,735	**5,778**	1,951	1,928	**3,879**	1,738	2,175	**3,913**
16:00-16:59	3,563	3,013	**6,576**	1,903	1,884	**3,787**	1,707	2,076	**3,783**
17:00-17:59	3,019	2,632	**5,651**	1,720	1,716	**3,436**	1,548	1,805	**3,353**
18:00-18:59	1,852	1,694	**3,546**	1,415	1,425	**2,840**	1,305	1,458	**2,763**
19:00-19:59	1,277	1,169	**2,446**	1,122	1,125	**2,247**	1,023	1,140	**2,163**
20:00-20:59	982	997	**1,978**	944	972	**1,916**	778	814	**1,592**
21:00-21:59	751	770	**1,521**	784	871	**1,655**	566	565	**1,131**
22:00-22:59	562	524	**1,085**	598	659	**1,257**	379	367	**746**
23:00-23:59	358	291	**648**	428	434	**862**	219	228	**447**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.5%	134%	131%
	0.4%	107%	103%
	0.4%	102%	90%
	0.6%	72%	45%
	1.4%	44%	26%
	3.0%	34%	22%
	5.5%	32%	17%
	8.3%	32%	18%
	6.1%	60%	39%
	5.0%	94%	73%
	5.1%	106%	92%
	5.5%	102%	95%
	5.8%	98%	94%
	6.1%	91%	86%
	6.7%	80%	77%
	7.8%	67%	68%
	8.9%	58%	58%
	7.6%	61%	59%
	4.8%	80%	78%
	3.3%	92%	88%
	2.7%	97%	80%
	2.0%	109%	74%
	1.5%	116%	69%
	0.9%	133%	69%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	335	448	439
01:00-01:59	277	295	285
02:00-02:59	251	257	226
03:00-03:59	405	292	184
04:00-04:59	888	391	228
05:00-05:59	1,915	656	415
06:00-06:59	3,466	1,101	605
07:00-07:59	5,239	1,670	969
08:00-08:59	3,866	2,325	1,501
09:00-09:59	3,143	2,939	2,288
10:00-10:59	3,226	3,408	2,959
11:00-11:59	3,498	3,582	3,329
12:00-12:59	3,688	3,612	3,469
13:00-13:59	3,831	3,476	3,288
14:00-14:59	4,248	3,395	3,277
15:00-15:59	4,907	3,294	3,323
16:00-16:59	5,585	3,216	3,213
17:00-17:59	4,799	2,918	2,847
18:00-18:59	3,011	2,412	2,346
19:00-19:59	2,077	1,908	1,837
20:00-20:59	1,680	1,627	1,352
21:00-21:59	1,292	1,405	960
22:00-22:59	922	1,067	634
23:00-23:59	550	732	380
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	0	0	0	0
Total Volume	315,500	46,428	40,355	402,283
				0%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	3b
Target AADT	68,050

2018 Annual ATR Data	
Location	USH 41 BTWN STH 125 & STH 96 APPLETON
Site #	440105
Trend ID	2 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	217	178	**395**	294	234	**528**	271	246	**517**
01:00-01:59	181	144	**326**	187	160	**347**	174	162	**336**
02:00-02:59	141	155	**296**	146	157	**303**	125	141	**266**
03:00-03:59	165	312	**477**	138	206	**344**	89	128	**217**
04:00-04:59	374	672	**1,046**	181	280	**461**	104	165	**269**
05:00-05:59	881	1,374	**2,255**	330	443	**773**	200	289	**489**
06:00-06:59	1,653	2,429	**4,082**	566	731	**1,297**	318	395	**713**
07:00-07:59	2,581	3,588	**6,169**	911	1,055	**1,966**	580	561	**1,141**
08:00-08:59	2,070	2,483	**4,553**	1,269	1,469	**2,738**	858	909	**1,767**
09:00-09:59	1,785	1,916	**3,701**	1,667	1,794	**3,461**	1,350	1,344	**2,694**
10:00-10:59	1,858	1,941	**3,799**	1,992	2,021	**4,013**	1,662	1,823	**3,485**
11:00-11:59	2,019	2,100	**4,119**	2,131	2,087	**4,218**	1,825	2,095	**3,920**
12:00-12:59	2,124	2,219	**4,343**	2,131	2,122	**4,253**	1,875	2,210	**4,085**
13:00-13:59	2,189	2,322	**4,511**	2,040	2,053	**4,093**	1,787	2,085	**3,872**
14:00-14:59	2,537	2,465	**5,003**	2,003	1,995	**3,998**	1,735	2,124	**3,859**
15:00-15:59	3,043	2,735	**5,778**	1,951	1,928	**3,879**	1,738	2,175	**3,913**
16:00-16:59	3,563	3,013	**6,576**	1,903	1,884	**3,787**	1,707	2,076	**3,783**
17:00-17:59	3,019	2,632	**5,651**	1,720	1,716	**3,436**	1,548	1,805	**3,353**
18:00-18:59	1,852	1,694	**3,546**	1,415	1,425	**2,840**	1,305	1,458	**2,763**
19:00-19:59	1,277	1,169	**2,446**	1,122	1,125	**2,247**	1,023	1,140	**2,163**
20:00-20:59	982	997	**1,978**	944	972	**1,916**	778	814	**1,592**
21:00-21:59	751	770	**1,521**	784	871	**1,655**	566	565	**1,131**
22:00-22:59	562	524	**1,085**	598	659	**1,257**	379	367	**746**
23:00-23:59	358	291	**648**	428	434	**862**	219	228	**447**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.5%	134%	131%
	0.4%	107%	103%
	0.4%	102%	90%
	0.6%	72%	45%
	1.4%	44%	26%
	3.0%	34%	22%
	5.5%	32%	17%
	8.3%	32%	18%
	6.1%	60%	39%
	5.0%	94%	73%
	5.1%	106%	92%
	5.5%	102%	95%
	5.8%	98%	94%
	6.1%	91%	86%
	6.7%	80%	77%
	7.8%	67%	68%
	8.9%	58%	58%
	7.6%	61%	59%
	4.8%	80%	78%
	3.3%	92%	88%
	2.7%	97%	80%
	2.0%	109%	74%
	1.5%	116%	69%
	0.9%	133%	69%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	362	484	473
01:00-01:59	298	318	308
02:00-02:59	271	277	244
03:00-03:59	437	315	199
04:00-04:59	958	422	246
05:00-05:59	2,065	708	448
06:00-06:59	3,738	1,188	653
07:00-07:59	5,650	1,801	1,045
08:00-08:59	4,170	2,508	1,618
09:00-09:59	3,390	3,170	2,467
10:00-10:59	3,479	3,675	3,192
11:00-11:59	3,773	3,863	3,590
12:00-12:59	3,977	3,895	3,741
13:00-13:59	4,131	3,748	3,546
14:00-14:59	4,582	3,661	3,534
15:00-15:59	5,292	3,552	3,584
16:00-16:59	6,023	3,468	3,465
17:00-17:59	5,176	3,147	3,071
18:00-18:59	3,247	2,601	2,530
19:00-19:59	2,240	2,058	1,981
20:00-20:59	1,812	1,755	1,458
21:00-21:59	1,393	1,516	1,036
22:00-22:59	994	1,151	683
23:00-23:59	594	789	409
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	30,113	0	0	30,113
Total Volume	340,250	50,070	43,521	433,841
				7%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 BTWN STH 125 & STH 96 APPLETON
Site #	440105
Trend ID	2 - ATR

Segment	3c
Target AADT	73,400

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	217	178	**395**	294	234	**528**	271	246	**517**
01:00-01:59	181	144	**326**	187	160	**347**	174	162	**336**
02:00-02:59	141	155	**296**	146	157	**303**	125	141	**266**
03:00-03:59	165	312	**477**	138	206	**344**	89	128	**217**
04:00-04:59	374	672	**1,046**	181	280	**461**	104	165	**269**
05:00-05:59	881	1,374	**2,255**	330	443	**773**	200	289	**489**
06:00-06:59	1,653	2,429	**4,082**	566	731	**1,297**	318	395	**713**
07:00-07:59	2,581	3,588	**6,169**	911	1,055	**1,966**	580	561	**1,141**
08:00-08:59	2,070	2,483	**4,553**	1,269	1,469	**2,738**	858	909	**1,767**
09:00-09:59	1,785	1,916	**3,701**	1,667	1,794	**3,461**	1,350	1,344	**2,694**
10:00-10:59	1,858	1,941	**3,799**	1,992	2,021	**4,013**	1,662	1,823	**3,485**
11:00-11:59	2,019	2,100	**4,119**	2,131	2,087	**4,218**	1,825	2,095	**3,920**
12:00-12:59	2,124	2,219	**4,343**	2,131	2,122	**4,253**	1,875	2,210	**4,085**
13:00-13:59	2,189	2,322	**4,511**	2,040	2,053	**4,093**	1,787	2,085	**3,872**
14:00-14:59	2,537	2,465	**5,003**	2,003	1,995	**3,998**	1,735	2,124	**3,859**
15:00-15:59	3,043	2,735	**5,778**	1,951	1,928	**3,879**	1,738	2,175	**3,913**
16:00-16:59	3,563	3,013	**6,576**	1,903	1,884	**3,787**	1,707	2,076	**3,783**
17:00-17:59	3,019	2,632	**5,651**	1,720	1,716	**3,436**	1,548	1,805	**3,353**
18:00-18:59	1,852	1,694	**3,546**	1,415	1,425	**2,840**	1,305	1,458	**2,763**
19:00-19:59	1,277	1,169	**2,446**	1,122	1,125	**2,247**	1,023	1,140	**2,163**
20:00-20:59	982	997	**1,978**	944	972	**1,916**	778	814	**1,592**
21:00-21:59	751	770	**1,521**	784	871	**1,655**	566	565	**1,131**
22:00-22:59	562	524	**1,085**	598	659	**1,257**	379	367	**746**
23:00-23:59	358	291	**648**	428	434	**862**	219	228	**447**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.4%	44%	26%
3.0%	34%	22%
5.5%	32%	17%
8.3%	32%	18%
6.1%	60%	39%
5.0%	94%	73%
5.1%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.7%	80%	77%
7.8%	67%	68%
8.9%	58%	58%
7.6%	61%	59%
4.8%	80%	78%
3.3%	92%	88%
2.7%	97%	80%
2.0%	109%	74%
1.5%	116%	69%
0.9%	133%	69%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	390	522	511
01:00-01:59	322	343	332
02:00-02:59	292	299	263
03:00-03:59	471	340	214
04:00-04:59	1,033	455	266
05:00-05:59	2,228	764	483
06:00-06:59	4,032	1,281	704
07:00-07:59	6,094	1,942	1,127
08:00-08:59	4,497	2,705	1,745
09:00-09:59	3,656	3,419	2,661
10:00-10:59	3,753	3,964	3,443
11:00-11:59	4,069	4,167	3,872
12:00-12:59	4,290	4,201	4,035
13:00-13:59	4,456	4,043	3,825
14:00-14:59	4,942	3,949	3,812
15:00-15:59	5,708	3,832	3,865
16:00-16:59	6,496	3,741	3,737
17:00-17:59	5,582	3,394	3,312
18:00-18:59	3,502	2,805	2,729
19:00-19:59	2,416	2,220	2,137
20:00-20:59	1,954	1,893	1,573
21:00-21:59	1,503	1,635	1,117
22:00-22:59	1,072	1,242	737
23:00-23:59	640	852	442
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	62,951	0	0	62,951
Total Volume	367,000	54,006	46,942	467,949
				13%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

Segment	3d
Target AADT	66,250

2018 Annual ATR Data	
Location	USH 41 BTWN STH 125 & STH 96 APPLETON
Site #	440105
Trend ID	2 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	217	178	**395**	294	234	**528**	271	246	**517**
01:00-01:59	181	144	**326**	187	160	**347**	174	162	**336**
02:00-02:59	141	155	**296**	146	157	**303**	125	141	**266**
03:00-03:59	165	312	**477**	138	206	**344**	89	128	**217**
04:00-04:59	374	672	**1,046**	181	280	**461**	104	165	**269**
05:00-05:59	881	1,374	**2,255**	330	443	**773**	200	289	**489**
06:00-06:59	1,653	2,429	**4,082**	566	731	**1,297**	318	395	**713**
07:00-07:59	2,581	3,588	**6,169**	911	1,055	**1,966**	580	561	**1,141**
08:00-08:59	2,070	2,483	**4,553**	1,269	1,469	**2,738**	858	909	**1,767**
09:00-09:59	1,785	1,916	**3,701**	1,667	1,794	**3,461**	1,350	1,344	**2,694**
10:00-10:59	1,858	1,941	**3,799**	1,992	2,021	**4,013**	1,662	1,823	**3,485**
11:00-11:59	2,019	2,100	**4,119**	2,131	2,087	**4,218**	1,825	2,095	**3,920**
12:00-12:59	2,124	2,219	**4,343**	2,131	2,122	**4,253**	1,875	2,210	**4,085**
13:00-13:59	2,189	2,322	**4,511**	2,040	2,053	**4,093**	1,787	2,085	**3,872**
14:00-14:59	2,537	2,465	**5,003**	2,003	1,995	**3,998**	1,735	2,124	**3,859**
15:00-15:59	3,043	2,735	**5,778**	1,951	1,928	**3,879**	1,738	2,175	**3,913**
16:00-16:59	3,563	3,013	**6,576**	1,903	1,884	**3,787**	1,707	2,076	**3,783**
17:00-17:59	3,019	2,632	**5,651**	1,720	1,716	**3,436**	1,548	1,805	**3,353**
18:00-18:59	1,852	1,694	**3,546**	1,415	1,425	**2,840**	1,305	1,458	**2,763**
19:00-19:59	1,277	1,169	**2,446**	1,122	1,125	**2,247**	1,023	1,140	**2,163**
20:00-20:59	982	997	**1,978**	944	972	**1,916**	778	814	**1,592**
21:00-21:59	751	770	**1,521**	784	871	**1,655**	566	565	**1,131**
22:00-22:59	562	524	**1,085**	598	659	**1,257**	379	367	**746**
23:00-23:59	358	291	**648**	428	434	**862**	219	228	**447**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.4%	44%	26%
3.0%	34%	22%
5.5%	32%	17%
8.3%	32%	18%
6.1%	60%	39%
5.0%	94%	73%
5.1%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.7%	80%	77%
7.8%	67%	68%
8.9%	58%	58%
7.6%	61%	59%
4.8%	80%	78%
3.3%	92%	88%
2.7%	97%	80%
2.0%	109%	74%
1.5%	116%	69%
0.9%	133%	69%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	352	471	461
01:00-01:59	290	309	300
02:00-02:59	264	270	237
03:00-03:59	425	307	193
04:00-04:59	932	411	240
05:00-05:59	2,011	689	436
06:00-06:59	3,640	1,156	636
07:00-07:59	5,500	1,753	1,017
08:00-08:59	4,059	2,441	1,575
09:00-09:59	3,300	3,086	2,402
10:00-10:59	3,387	3,578	3,107
11:00-11:59	3,673	3,761	3,495
12:00-12:59	3,872	3,792	3,642
13:00-13:59	4,022	3,649	3,452
14:00-14:59	4,460	3,565	3,441
15:00-15:59	5,152	3,459	3,489
16:00-16:59	5,863	3,376	3,373
17:00-17:59	5,039	3,064	2,990
18:00-18:59	3,161	2,532	2,463
19:00-19:59	2,181	2,003	1,929
20:00-20:59	1,764	1,708	1,419
21:00-21:59	1,356	1,476	1,008
22:00-22:59	968	1,121	665
23:00-23:59	578	769	399
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	0	0	0	0
Total Volume	331,250	48,746	42,370	422,365
				0%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 BTWN STH 96 & STH 15
Site #	440165
Trend ID	3 - ATR

Segment	4a
Target AADT	58,700

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	202	166	**367**	286	214	**500**	262	227	**489**
01:00-01:59	171	131	**301**	179	145	**324**	162	147	**309**
02:00-02:59	126	140	**266**	130	143	**273**	113	127	**240**
03:00-03:59	142	292	**434**	120	201	**321**	79	126	**205**
04:00-04:59	325	664	**989**	160	278	**438**	95	162	**257**
05:00-05:59	766	1,310	**2,076**	288	431	**719**	175	287	**462**
06:00-06:59	1,418	2,360	**3,777**	508	715	**1,223**	291	388	**679**
07:00-07:59	2,240	3,447	**5,686**	823	1,106	**1,929**	536	578	**1,114**
08:00-08:59	1,862	2,491	**4,353**	1,170	1,565	**2,735**	817	939	**1,756**
09:00-09:59	1,640	2,024	**3,665**	1,531	2,056	**3,587**	1,285	1,491	**2,776**
10:00-10:59	1,784	2,069	**3,852**	1,911	2,356	**4,267**	1,553	2,125	**3,678**
11:00-11:59	1,999	2,201	**4,201**	2,146	2,392	**4,538**	1,812	2,356	**4,168**
12:00-12:59	2,154	2,270	**4,424**	2,231	2,371	**4,602**	1,954	2,445	**4,399**
13:00-13:59	2,275	2,307	**4,582**	2,187	2,251	**4,438**	1,950	2,248	**4,198**
14:00-14:59	2,627	2,376	**5,003**	2,230	2,105	**4,335**	1,964	2,211	**4,175**
15:00-15:59	3,075	2,629	**5,703**	2,205	2,008	**4,213**	1,965	2,225	**4,190**
16:00-16:59	3,566	2,886	**6,452**	2,152	1,921	**4,073**	1,935	2,099	**4,034**
17:00-17:59	3,101	2,577	**5,678**	1,952	1,730	**3,682**	1,761	1,754	**3,515**
18:00-18:59	1,998	1,689	**3,687**	1,644	1,435	**3,079**	1,491	1,356	**2,847**
19:00-19:59	1,480	1,102	**2,582**	1,329	1,080	**2,409**	1,101	1,067	**2,168**
20:00-20:59	1,170	866	**2,036**	1,129	850	**1,979**	818	754	**1,572**
21:00-21:59	889	656	**1,545**	937	749	**1,686**	576	522	**1,098**
22:00-22:59	583	463	**1,046**	644	586	**1,230**	373	328	**701**
23:00-23:59	351	266	**617**	424	401	**825**	208	214	**422**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	136%	133%
0.4%	107%	103%
0.4%	103%	90%
0.6%	74%	47%
1.3%	44%	26%
2.8%	35%	22%
5.2%	32%	18%
7.8%	34%	20%
5.9%	63%	40%
5.0%	98%	76%
5.3%	111%	95%
5.7%	108%	99%
6.0%	104%	99%
6.2%	97%	92%
6.8%	87%	83%
7.8%	74%	73%
8.8%	63%	63%
7.7%	65%	62%
5.0%	84%	77%
3.5%	93%	84%
2.8%	97%	77%
2.1%	109%	71%
1.4%	118%	67%
0.8%	134%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	294	400	391
01:00-01:59	241	259	247
02:00-02:59	213	219	192
03:00-03:59	348	257	164
04:00-04:59	791	351	206
05:00-05:59	1,662	576	370
06:00-06:59	3,024	979	544
07:00-07:59	4,552	1,544	892
08:00-08:59	3,485	2,190	1,406
09:00-09:59	2,934	2,872	2,222
10:00-10:59	3,084	3,416	2,944
11:00-11:59	3,363	3,633	3,337
12:00-12:59	3,541	3,684	3,522
13:00-13:59	3,668	3,553	3,361
14:00-14:59	4,005	3,470	3,342
15:00-15:59	4,566	3,373	3,354
16:00-16:59	5,165	3,261	3,229
17:00-17:59	4,545	2,948	2,814
18:00-18:59	2,952	2,465	2,279
19:00-19:59	2,067	1,929	1,736
20:00-20:59	1,630	1,584	1,258
21:00-21:59	1,237	1,350	879
22:00-22:59	837	985	561
23:00-23:59	494	660	338
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	0	0	0	0
Total Volume	293,500	45,956	39,589	379,045
				0%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 BTWN STH 96 & STH 15
Site #	440165
Trend ID	3 - ATR

Segment	4b
Target AADT	64,950

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	202	166	**367**	286	214	**500**	262	227	**489**
01:00-01:59	171	131	**301**	179	145	**324**	162	147	**309**
02:00-02:59	126	140	**266**	130	143	**273**	113	127	**240**
03:00-03:59	142	292	**434**	120	201	**321**	79	126	**205**
04:00-04:59	325	664	**989**	160	278	**438**	95	162	**257**
05:00-05:59	766	1,310	**2,076**	288	431	**719**	175	287	**462**
06:00-06:59	1,418	2,360	**3,777**	508	715	**1,223**	291	388	**679**
07:00-07:59	2,240	3,447	**5,686**	823	1,106	**1,929**	536	578	**1,114**
08:00-08:59	1,862	2,491	**4,353**	1,170	1,565	**2,735**	817	939	**1,756**
09:00-09:59	1,640	2,024	**3,665**	1,531	2,056	**3,587**	1,285	1,491	**2,776**
10:00-10:59	1,784	2,069	**3,852**	1,911	2,356	**4,267**	1,553	2,125	**3,678**
11:00-11:59	1,999	2,201	**4,201**	2,146	2,392	**4,538**	1,812	2,356	**4,168**
12:00-12:59	2,154	2,270	**4,424**	2,231	2,371	**4,602**	1,954	2,445	**4,399**
13:00-13:59	2,275	2,307	**4,582**	2,187	2,251	**4,438**	1,950	2,248	**4,198**
14:00-14:59	2,627	2,376	**5,003**	2,230	2,105	**4,335**	1,964	2,211	**4,175**
15:00-15:59	3,075	2,629	**5,703**	2,205	2,008	**4,213**	1,965	2,225	**4,190**
16:00-16:59	3,566	2,886	**6,452**	2,152	1,921	**4,073**	1,935	2,099	**4,034**
17:00-17:59	3,101	2,577	**5,678**	1,952	1,730	**3,682**	1,761	1,754	**3,515**
18:00-18:59	1,998	1,689	**3,687**	1,644	1,435	**3,079**	1,491	1,356	**2,847**
19:00-19:59	1,480	1,102	**2,582**	1,329	1,080	**2,409**	1,101	1,067	**2,168**
20:00-20:59	1,170	866	**2,036**	1,129	850	**1,979**	818	754	**1,572**
21:00-21:59	889	656	**1,545**	937	749	**1,686**	576	522	**1,098**
22:00-22:59	583	463	**1,046**	644	586	**1,230**	373	328	**701**
23:00-23:59	351	266	**617**	424	401	**825**	208	214	**422**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	136%	133%
0.4%	107%	103%
0.4%	103%	90%
0.6%	74%	47%
1.3%	44%	26%
2.8%	35%	22%
5.2%	32%	18%
7.8%	34%	20%
5.9%	63%	40%
5.0%	98%	76%
5.3%	111%	95%
5.7%	108%	99%
6.0%	104%	99%
6.2%	97%	92%
6.8%	87%	83%
7.8%	74%	73%
8.8%	63%	63%
7.7%	65%	62%
5.0%	84%	77%
3.5%	93%	84%
2.8%	97%	77%
2.1%	109%	71%
1.4%	118%	67%
0.8%	134%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	325	443	433
01:00-01:59	267	287	274
02:00-02:59	236	242	213
03:00-03:59	385	284	182
04:00-04:59	876	388	228
05:00-05:59	1,839	637	409
06:00-06:59	3,346	1,083	601
07:00-07:59	5,037	1,709	987
08:00-08:59	3,856	2,423	1,555
09:00-09:59	3,246	3,177	2,459
10:00-10:59	3,412	3,780	3,258
11:00-11:59	3,721	4,020	3,692
12:00-12:59	3,918	4,076	3,897
13:00-13:59	4,059	3,931	3,719
14:00-14:59	4,432	3,840	3,698
15:00-15:59	5,052	3,732	3,711
16:00-16:59	5,715	3,608	3,573
17:00-17:59	5,029	3,261	3,114
18:00-18:59	3,266	2,727	2,522
19:00-19:59	2,287	2,134	1,920
20:00-20:59	1,803	1,753	1,392
21:00-21:59	1,369	1,493	973
22:00-22:59	926	1,090	621
23:00-23:59	547	731	374
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	0	0	0	0
Total Volume	324,750	50,849	43,804	419,403
				0%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 BTWN STH 96 & STH 15
Site #	440165
Trend ID	3 - ATR

Segment	4c
Target AADT	71,100

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	202	166	**367**	286	214	**500**	262	227	**489**
01:00-01:59	171	131	**301**	179	145	**324**	162	147	**309**
02:00-02:59	126	140	**266**	130	143	**273**	113	127	**240**
03:00-03:59	142	292	**434**	120	201	**321**	79	126	**205**
04:00-04:59	325	664	**989**	160	278	**438**	95	162	**257**
05:00-05:59	766	1,310	**2,076**	288	431	**719**	175	287	**462**
06:00-06:59	1,418	2,360	**3,777**	508	715	**1,223**	291	388	**679**
07:00-07:59	2,240	3,447	**5,686**	823	1,106	**1,929**	536	578	**1,114**
08:00-08:59	1,862	2,491	**4,353**	1,170	1,565	**2,735**	817	939	**1,756**
09:00-09:59	1,640	2,024	**3,665**	1,531	2,056	**3,587**	1,285	1,491	**2,776**
10:00-10:59	1,784	2,069	**3,852**	1,911	2,356	**4,267**	1,553	2,125	**3,678**
11:00-11:59	1,999	2,201	**4,201**	2,146	2,392	**4,538**	1,812	2,356	**4,168**
12:00-12:59	2,154	2,270	**4,424**	2,231	2,371	**4,602**	1,954	2,445	**4,399**
13:00-13:59	2,275	2,307	**4,582**	2,187	2,251	**4,438**	1,950	2,248	**4,198**
14:00-14:59	2,627	2,376	**5,003**	2,230	2,105	**4,335**	1,964	2,211	**4,175**
15:00-15:59	3,075	2,629	**5,703**	2,205	2,008	**4,213**	1,965	2,225	**4,190**
16:00-16:59	3,566	2,886	**6,452**	2,152	1,921	**4,073**	1,935	2,099	**4,034**
17:00-17:59	3,101	2,577	**5,678**	1,952	1,730	**3,682**	1,761	1,754	**3,515**
18:00-18:59	1,998	1,689	**3,687**	1,644	1,435	**3,079**	1,491	1,356	**2,847**
19:00-19:59	1,480	1,102	**2,582**	1,329	1,080	**2,409**	1,101	1,067	**2,168**
20:00-20:59	1,170	866	**2,036**	1,129	850	**1,979**	818	754	**1,572**
21:00-21:59	889	656	**1,545**	937	749	**1,686**	576	522	**1,098**
22:00-22:59	583	463	**1,046**	644	586	**1,230**	373	328	**701**
23:00-23:59	351	266	**617**	424	401	**825**	208	214	**422**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.5%	136%	133%
	0.4%	107%	103%
	0.4%	103%	90%
	0.6%	74%	47%
	1.3%	44%	26%
	2.8%	35%	22%
	5.2%	32%	18%
	7.8%	34%	20%
	5.9%	63%	40%
	5.0%	98%	76%
	5.3%	111%	95%
	5.7%	108%	99%
	6.0%	104%	99%
	6.2%	97%	92%
	6.8%	87%	83%
	7.8%	74%	73%
	8.8%	63%	63%
	7.7%	65%	62%
	5.0%	84%	77%
	3.5%	93%	84%
	2.8%	97%	77%
	2.1%	109%	71%
	1.4%	118%	67%
	0.8%	134%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	356	485	474
01:00-01:59	292	314	300
02:00-02:59	258	265	233
03:00-03:59	421	311	199
04:00-04:59	959	425	249
05:00-05:59	2,013	697	448
06:00-06:59	3,663	1,186	658
07:00-07:59	5,514	1,870	1,080
08:00-08:59	4,221	2,652	1,703
09:00-09:59	3,553	3,478	2,692
10:00-10:59	3,736	4,138	3,566
11:00-11:59	4,073	4,400	4,042
12:00-12:59	4,289	4,462	4,266
13:00-13:59	4,443	4,303	4,071
14:00-14:59	4,851	4,204	4,048
15:00-15:59	5,530	4,085	4,063
16:00-16:59	6,257	3,949	3,912
17:00-17:59	5,506	3,570	3,408
18:00-18:59	3,575	2,986	2,761
19:00-19:59	2,503	2,336	2,102
20:00-20:59	1,974	1,919	1,524
21:00-21:59	1,498	1,635	1,065
22:00-22:59	1,014	1,193	680
23:00-23:59	598	800	409
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	31,283	0	0	31,283
Total Volume	355,500	55,664	47,952	459,116
				7%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

Segment	4d
Target AADT	62,600

2018 Annual ATR Data	
Location	USH 41 BTWN STH 96 & STH 15
Site #	440165
Trend ID	3 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	202	166	**367**	286	214	**500**	262	227	**489**
01:00-01:59	171	131	**301**	179	145	**324**	162	147	**309**
02:00-02:59	126	140	**266**	130	143	**273**	113	127	**240**
03:00-03:59	142	292	**434**	120	201	**321**	79	126	**205**
04:00-04:59	325	664	**989**	160	278	**438**	95	162	**257**
05:00-05:59	766	1,310	**2,076**	288	431	**719**	175	287	**462**
06:00-06:59	1,418	2,360	**3,777**	508	715	**1,223**	291	388	**679**
07:00-07:59	2,240	3,447	**5,686**	823	1,106	**1,929**	536	578	**1,114**
08:00-08:59	1,862	2,491	**4,353**	1,170	1,565	**2,735**	817	939	**1,756**
09:00-09:59	1,640	2,024	**3,665**	1,531	2,056	**3,587**	1,285	1,491	**2,776**
10:00-10:59	1,784	2,069	**3,852**	1,911	2,356	**4,267**	1,553	2,125	**3,678**
11:00-11:59	1,999	2,201	**4,201**	2,146	2,392	**4,538**	1,812	2,356	**4,168**
12:00-12:59	2,154	2,270	**4,424**	2,231	2,371	**4,602**	1,954	2,445	**4,399**
13:00-13:59	2,275	2,307	**4,582**	2,187	2,251	**4,438**	1,950	2,248	**4,198**
14:00-14:59	2,627	2,376	**5,003**	2,230	2,105	**4,335**	1,964	2,211	**4,175**
15:00-15:59	3,075	2,629	**5,703**	2,205	2,008	**4,213**	1,965	2,225	**4,190**
16:00-16:59	3,566	2,886	**6,452**	2,152	1,921	**4,073**	1,935	2,099	**4,034**
17:00-17:59	3,101	2,577	**5,678**	1,952	1,730	**3,682**	1,761	1,754	**3,515**
18:00-18:59	1,998	1,689	**3,687**	1,644	1,435	**3,079**	1,491	1,356	**2,847**
19:00-19:59	1,480	1,102	**2,582**	1,329	1,080	**2,409**	1,101	1,067	**2,168**
20:00-20:59	1,170	866	**2,036**	1,129	850	**1,979**	818	754	**1,572**
21:00-21:59	889	656	**1,545**	937	749	**1,686**	576	522	**1,098**
22:00-22:59	583	463	**1,046**	644	586	**1,230**	373	328	**701**
23:00-23:59	351	266	**617**	424	401	**825**	208	214	**422**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.5%	136%	133%
	0.4%	107%	103%
	0.4%	103%	90%
	0.6%	74%	47%
	1.3%	44%	26%
	2.8%	35%	22%
	5.2%	32%	18%
	7.8%	34%	20%
	5.9%	63%	40%
	5.0%	98%	76%
	5.3%	111%	95%
	5.7%	108%	99%
	6.0%	104%	99%
	6.2%	97%	92%
	6.8%	87%	83%
	7.8%	74%	73%
	8.8%	63%	63%
	7.7%	65%	62%
	5.0%	84%	77%
	3.5%	93%	84%
	2.8%	97%	77%
	2.1%	109%	71%
	1.4%	118%	67%
	0.8%	134%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	313	427	417
01:00-01:59	257	277	264
02:00-02:59	227	233	205
03:00-03:59	371	274	175
04:00-04:59	844	374	219
05:00-05:59	1,773	614	394
06:00-06:59	3,225	1,044	580
07:00-07:59	4,855	1,647	951
08:00-08:59	3,717	2,335	1,499
09:00-09:59	3,129	3,062	2,370
10:00-10:59	3,289	3,643	3,140
11:00-11:59	3,586	3,874	3,558
12:00-12:59	3,777	3,929	3,756
13:00-13:59	3,912	3,789	3,584
14:00-14:59	4,271	3,701	3,564
15:00-15:59	4,869	3,597	3,577
16:00-16:59	5,509	3,477	3,444
17:00-17:59	4,847	3,143	3,001
18:00-18:59	3,148	2,629	2,431
19:00-19:59	2,204	2,057	1,851
20:00-20:59	1,738	1,690	1,342
21:00-21:59	1,319	1,439	937
22:00-22:59	893	1,050	598
23:00-23:59	527	704	360
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (5-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	27,543	0	0	27,543
Total Volume	313,000	49,009	42,219	404,228
				7%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	5a
Target AADT	56,150

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	**166**			**246**			**257**
01:00-01:59	133	103	**236**			**297**			**296**
02:00-02:59	145	123	**268**			**292**			**278**
03:00-03:59	131	297	**428**			**321**			**216**
04:00-04:59	299	632	**931**			**417**			**251**
05:00-05:59	897	1,317	**2,214**			**766**			**477**
06:00-06:59	1,516	2,590	**4,106**			**1,210**			**665**
07:00-07:59	2,254	3,558	**5,812**			**1,965**			**1,149**
08:00-08:59	1,836	2,456	**4,292**			**2,784**			**1,803**
09:00-09:59	1,575	2,025	**3,600**			**3,509**			**2,725**
10:00-10:59	1,596	1,993	**3,589**			**4,001**			**3,429**
11:00-11:59	1,820	2,028	**3,848**			**4,165**			**3,783**
12:00-12:59	1,868	2,144	**4,011**			**4,229**			**3,955**
13:00-13:59	2,042	2,227	**4,269**			**4,194**			**3,852**
14:00-14:59	2,431	2,242	**4,673**			**4,036**			**3,827**
15:00-15:59	2,788	2,568	**5,356**			**3,882**			**3,748**
16:00-16:59	3,568	3,080	**6,648**			**4,022**			**3,875**
17:00-17:59	3,118	2,874	**5,992**			**3,779**			**3,415**
18:00-18:59	1,930	1,932	**3,862**			**3,227**			**2,888**
19:00-19:59	1,430	1,226	**2,656**			**2,542**			**2,252**
20:00-20:59	1,275	937	**2,212**			**2,168**			**1,657**
21:00-21:59	1,155	733	**1,888**			**2,149**			**1,288**
22:00-22:59	656	446	**1,102**			**1,392**			**704**
23:00-23:59	317	240	**557**			**804**			**380**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
8.0%	34%	20%
5.9%	65%	42%
5.0%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.5%	105%	99%
5.9%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.1%	60%	58%
8.2%	63%	57%
5.3%	84%	75%
3.7%	96%	85%
3.0%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	128	190	199
01:00-01:59	182	229	228
02:00-02:59	207	226	215
03:00-03:59	330	248	167
04:00-04:59	719	322	194
05:00-05:59	1,710	591	368
06:00-06:59	3,171	935	513
07:00-07:59	4,488	1,517	887
08:00-08:59	3,314	2,150	1,392
09:00-09:59	2,780	2,710	2,105
10:00-10:59	2,771	3,090	2,648
11:00-11:59	2,971	3,216	2,922
12:00-12:59	3,097	3,266	3,054
13:00-13:59	3,297	3,239	2,975
14:00-14:59	3,608	3,116	2,956
15:00-15:59	4,136	2,998	2,895
16:00-16:59	5,134	3,106	2,993
17:00-17:59	4,627	2,918	2,637
18:00-18:59	2,982	2,492	2,230
19:00-19:59	2,051	1,963	1,739
20:00-20:59	1,708	1,674	1,279
21:00-21:59	1,458	1,659	995
22:00-22:59	851	1,075	544
23:00-23:59	430	621	293
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	91,923	0	0	91,923
Total Volume	280,750	43,551	36,428	360,728
				25%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	5b
Target AADT	64,700

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	**166**			**246**			**257**
01:00-01:59	133	103	**236**			**297**			**296**
02:00-02:59	145	123	**268**			**292**			**278**
03:00-03:59	131	297	**428**			**321**			**216**
04:00-04:59	299	632	**931**			**417**			**251**
05:00-05:59	897	1,317	**2,214**			**766**			**477**
06:00-06:59	1,516	2,590	**4,106**			**1,210**			**665**
07:00-07:59	2,254	3,558	**5,812**			**1,965**			**1,149**
08:00-08:59	1,836	2,456	**4,292**			**2,784**			**1,803**
09:00-09:59	1,575	2,025	**3,600**			**3,509**			**2,725**
10:00-10:59	1,596	1,993	**3,589**			**4,001**			**3,429**
11:00-11:59	1,820	2,028	**3,848**			**4,165**			**3,783**
12:00-12:59	1,868	2,144	**4,011**			**4,229**			**3,955**
13:00-13:59	2,042	2,227	**4,269**			**4,194**			**3,852**
14:00-14:59	2,431	2,242	**4,673**			**4,036**			**3,827**
15:00-15:59	2,788	2,568	**5,356**			**3,882**			**3,748**
16:00-16:59	3,568	3,080	**6,648**			**4,022**			**3,875**
17:00-17:59	3,118	2,874	**5,992**			**3,779**			**3,415**
18:00-18:59	1,930	1,932	**3,862**			**3,227**			**2,888**
19:00-19:59	1,430	1,226	**2,656**			**2,542**			**2,252**
20:00-20:59	1,275	937	**2,212**			**2,168**			**1,657**
21:00-21:59	1,155	733	**1,888**			**2,149**			**1,288**
22:00-22:59	656	446	**1,102**			**1,392**			**704**
23:00-23:59	317	240	**557**			**804**			**380**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
8.0%	34%	20%
5.9%	65%	42%
5.0%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.5%	105%	99%
5.9%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.1%	60%	58%
8.2%	63%	57%
5.3%	84%	75%
3.7%	96%	85%
3.0%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	148	219	229
01:00-01:59	210	264	263
02:00-02:59	238	260	247
03:00-03:59	380	285	192
04:00-04:59	828	372	223
05:00-05:59	1,970	681	424
06:00-06:59	3,654	1,077	592
07:00-07:59	5,171	1,748	1,023
08:00-08:59	3,819	2,477	1,604
09:00-09:59	3,203	3,123	2,425
10:00-10:59	3,193	3,560	3,051
11:00-11:59	3,424	3,706	3,367
12:00-12:59	3,569	3,763	3,519
13:00-13:59	3,799	3,732	3,428
14:00-14:59	4,158	3,591	3,406
15:00-15:59	4,766	3,455	3,336
16:00-16:59	5,915	3,579	3,448
17:00-17:59	5,332	3,363	3,039
18:00-18:59	3,436	2,872	2,570
19:00-19:59	2,363	2,262	2,004
20:00-20:59	1,968	1,929	1,474
21:00-21:59	1,680	1,912	1,147
22:00-22:59	981	1,238	627
23:00-23:59	496	716	338
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	126,709	0	0	126,709
Total Volume	323,500	50,182	41,974	415,656
				30%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	5c
Target AADT	75,200

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	**166**			**246**			**257**
01:00-01:59	133	103	**236**			**297**			**296**
02:00-02:59	145	123	**268**			**292**			**278**
03:00-03:59	131	297	**428**			**321**			**216**
04:00-04:59	299	632	**931**			**417**			**251**
05:00-05:59	897	1,317	**2,214**			**766**			**477**
06:00-06:59	1,516	2,590	**4,106**			**1,210**			**665**
07:00-07:59	2,254	3,558	**5,812**			**1,965**			**1,149**
08:00-08:59	1,836	2,456	**4,292**			**2,784**			**1,803**
09:00-09:59	1,575	2,025	**3,600**			**3,509**			**2,725**
10:00-10:59	1,596	1,993	**3,589**			**4,001**			**3,429**
11:00-11:59	1,820	2,028	**3,848**			**4,165**			**3,783**
12:00-12:59	1,868	2,144	**4,011**			**4,229**			**3,955**
13:00-13:59	2,042	2,227	**4,269**			**4,194**			**3,852**
14:00-14:59	2,431	2,242	**4,673**			**4,036**			**3,827**
15:00-15:59	2,788	2,568	**5,356**			**3,882**			**3,748**
16:00-16:59	3,568	3,080	**6,648**			**4,022**			**3,875**
17:00-17:59	3,118	2,874	**5,992**			**3,779**			**3,415**
18:00-18:59	1,930	1,932	**3,862**			**3,227**			**2,888**
19:00-19:59	1,430	1,226	**2,656**			**2,542**			**2,252**
20:00-20:59	1,275	937	**2,212**			**2,168**			**1,657**
21:00-21:59	1,155	733	**1,888**			**2,149**			**1,288**
22:00-22:59	656	446	**1,102**			**1,392**			**704**
23:00-23:59	317	240	**557**			**804**			**380**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
00:00-00:59	0.2%	148%	155%
01:00-01:59	0.3%	126%	126%
02:00-02:59	0.4%	109%	104%
03:00-03:59	0.6%	75%	51%
04:00-04:59	1.3%	45%	27%
05:00-05:59	3.0%	35%	22%
06:00-06:59	5.6%	29%	16%
07:00-07:59	8.0%	34%	20%
08:00-08:59	5.9%	65%	42%
09:00-09:59	5.0%	97%	76%
10:00-10:59	4.9%	111%	96%
11:00-11:59	5.3%	108%	98%
12:00-12:59	5.5%	105%	99%
13:00-13:59	5.9%	98%	90%
14:00-14:59	6.4%	86%	82%
15:00-15:59	7.4%	72%	70%
16:00-16:59	9.1%	60%	58%
17:00-17:59	8.2%	63%	57%
18:00-18:59	5.3%	84%	75%
19:00-19:59	3.7%	96%	85%
20:00-20:59	3.0%	98%	75%
21:00-21:59	2.6%	114%	68%
22:00-22:59	1.5%	126%	64%
23:00-23:59	0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	172	254	266
01:00-01:59	244	307	306
02:00-02:59	277	302	287
03:00-03:59	442	332	224
04:00-04:59	963	432	260
05:00-05:59	2,290	792	493
06:00-06:59	4,247	1,252	688
07:00-07:59	6,011	2,032	1,189
08:00-08:59	4,438	2,879	1,864
09:00-09:59	3,723	3,629	2,819
10:00-10:59	3,711	4,138	3,546
11:00-11:59	3,979	4,307	3,913
12:00-12:59	4,148	4,374	4,090
13:00-13:59	4,415	4,338	3,984
14:00-14:59	4,833	4,174	3,959
15:00-15:59	5,539	4,015	3,877
16:00-16:59	6,875	4,159	4,008
17:00-17:59	6,197	3,908	3,532
18:00-18:59	3,994	3,338	2,987
19:00-19:59	2,746	2,629	2,329
20:00-20:59	2,287	2,242	1,713
21:00-21:59	1,953	2,222	1,333
22:00-22:59	1,140	1,439	728
23:00-23:59	576	832	393
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	233,516	29,505	8,098	271,120
Total Volume	376,000	58,326	48,786	483,112
				56%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	5d
Target AADT	69,450

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	**166**			**246**			**257**
01:00-01:59	133	103	**236**			**297**			**296**
02:00-02:59	145	123	**268**			**292**			**278**
03:00-03:59	131	297	**428**			**321**			**216**
04:00-04:59	299	632	**931**			**417**			**251**
05:00-05:59	897	1,317	**2,214**			**766**			**477**
06:00-06:59	1,516	2,590	**4,106**			**1,210**			**665**
07:00-07:59	2,254	3,558	**5,812**			**1,965**			**1,149**
08:00-08:59	1,836	2,456	**4,292**			**2,784**			**1,803**
09:00-09:59	1,575	2,025	**3,600**			**3,509**			**2,725**
10:00-10:59	1,596	1,993	**3,589**			**4,001**			**3,429**
11:00-11:59	1,820	2,028	**3,848**			**4,165**			**3,783**
12:00-12:59	1,868	2,144	**4,011**			**4,229**			**3,955**
13:00-13:59	2,042	2,227	**4,269**			**4,194**			**3,852**
14:00-14:59	2,431	2,242	**4,673**			**4,036**			**3,827**
15:00-15:59	2,788	2,568	**5,356**			**3,882**			**3,748**
16:00-16:59	3,568	3,080	**6,648**			**4,022**			**3,875**
17:00-17:59	3,118	2,874	**5,992**			**3,779**			**3,415**
18:00-18:59	1,930	1,932	**3,862**			**3,227**			**2,888**
19:00-19:59	1,430	1,226	**2,656**			**2,542**			**2,252**
20:00-20:59	1,275	937	**2,212**			**2,168**			**1,657**
21:00-21:59	1,155	733	**1,888**			**2,149**			**1,288**
22:00-22:59	656	446	**1,102**			**1,392**			**704**
23:00-23:59	317	240	**557**			**804**			**380**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
00:00-00:59	0.2%	148%	155%
01:00-01:59	0.3%	126%	126%
02:00-02:59	0.4%	109%	104%
03:00-03:59	0.6%	75%	51%
04:00-04:59	1.3%	45%	27%
05:00-05:59	3.0%	35%	22%
06:00-06:59	5.6%	29%	16%
07:00-07:59	8.0%	34%	20%
08:00-08:59	5.9%	65%	42%
09:00-09:59	5.0%	97%	76%
10:00-10:59	4.9%	111%	96%
11:00-11:59	5.3%	108%	98%
12:00-12:59	5.5%	105%	99%
13:00-13:59	5.9%	98%	90%
14:00-14:59	6.4%	86%	82%
15:00-15:59	7.4%	72%	70%
16:00-16:59	9.1%	60%	58%
17:00-17:59	8.2%	63%	57%
18:00-18:59	5.3%	84%	75%
19:00-19:59	3.7%	96%	85%
20:00-20:59	3.0%	98%	75%
21:00-21:59	2.6%	114%	68%
22:00-22:59	1.5%	126%	64%
23:00-23:59	0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	159	235	246
01:00-01:59	225	283	282
02:00-02:59	256	279	265
03:00-03:59	408	306	207
04:00-04:59	889	399	240
05:00-05:59	2,115	731	456
06:00-06:59	3,922	1,156	635
07:00-07:59	5,551	1,876	1,098
08:00-08:59	4,099	2,659	1,722
09:00-09:59	3,439	3,352	2,603
10:00-10:59	3,428	3,822	3,275
11:00-11:59	3,675	3,978	3,614
12:00-12:59	3,831	4,039	3,778
13:00-13:59	4,078	4,006	3,679
14:00-14:59	4,463	3,855	3,656
15:00-15:59	5,115	3,708	3,580
16:00-16:59	6,349	3,841	3,702
17:00-17:59	5,723	3,609	3,262
18:00-18:59	3,688	3,082	2,758
19:00-19:59	2,536	2,428	2,151
20:00-20:59	2,112	2,070	1,582
21:00-21:59	1,803	2,052	1,231
22:00-22:59	1,053	1,329	673
23:00-23:59	532	768	363
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	176,895	8,045	0	184,940
Total Volume	347,250	53,866	45,056	446,172
				41%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	6a
Target AADT	63,000

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	**178**			**263**			**275**
01:00-01:59	136	103	**238**			**300**			**299**
02:00-02:59	142	125	**267**			**291**			**277**
03:00-03:59	134	281	**414**			**311**			**209**
04:00-04:59	375	617	**992**			**445**			**268**
05:00-05:59	1,078	1,263	**2,341**			**809**			**504**
06:00-06:59	1,768	2,523	**4,291**			**1,265**			**695**
07:00-07:59	2,669	3,407	**6,076**			**2,054**			**1,201**
08:00-08:59	1,970	2,440	**4,409**			**2,860**			**1,852**
09:00-09:59	1,710	2,049	**3,759**			**3,664**			**2,845**
10:00-10:59	1,707	2,072	**3,779**			**4,213**			**3,610**
11:00-11:59	1,910	2,126	**4,036**			**4,368**			**3,968**
12:00-12:59	2,019	2,248	**4,267**			**4,498**			**4,207**
13:00-13:59	2,144	2,270	**4,414**			**4,336**			**3,983**
14:00-14:59	2,473	2,437	**4,910**			**4,241**			**4,022**
15:00-15:59	2,868	2,813	**5,680**			**4,118**			**3,976**
16:00-16:59	3,562	3,342	**6,903**			**4,176**			**4,024**
17:00-17:59	3,266	3,144	**6,410**			**4,043**			**3,653**
18:00-18:59	2,006	2,124	**4,129**			**3,451**			**3,088**
19:00-19:59	1,489	1,346	**2,835**			**2,713**			**2,403**
20:00-20:59	1,311	1,077	**2,388**			**2,341**			**1,789**
21:00-21:59	1,176	828	**2,004**			**2,281**			**1,368**
22:00-22:59	661	500	**1,161**			**1,466**			**742**
23:00-23:59	313	267	**580**			**837**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	146	217	226
01:00-01:59	196	247	246
02:00-02:59	220	240	228
03:00-03:59	341	256	173
04:00-04:59	817	367	220
05:00-05:59	1,929	667	416
06:00-06:59	3,535	1,042	572
07:00-07:59	5,007	1,692	990
08:00-08:59	3,633	2,357	1,526
09:00-09:59	3,097	3,019	2,345
10:00-10:59	3,114	3,471	2,975
11:00-11:59	3,325	3,599	3,270
12:00-12:59	3,516	3,706	3,466
13:00-13:59	3,637	3,573	3,282
14:00-14:59	4,046	3,494	3,314
15:00-15:59	4,680	3,393	3,276
16:00-16:59	5,688	3,441	3,316
17:00-17:59	5,282	3,331	3,010
18:00-18:59	3,402	2,843	2,544
19:00-19:59	2,336	2,236	1,980
20:00-20:59	1,968	1,929	1,474
21:00-21:59	1,651	1,879	1,127
22:00-22:59	956	1,208	611
23:00-23:59	478	689	326
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	123,515	0	0	123,515
Total Volume	315,000	48,897	40,914	404,812
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	6b
Target AADT	70,250

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	**178**			**263**			**275**
01:00-01:59	136	103	**238**			**300**			**299**
02:00-02:59	142	125	**267**			**291**			**277**
03:00-03:59	134	281	**414**			**311**			**209**
04:00-04:59	375	617	**992**			**445**			**268**
05:00-05:59	1,078	1,263	**2,341**			**809**			**504**
06:00-06:59	1,768	2,523	**4,291**			**1,265**			**695**
07:00-07:59	2,669	3,407	**6,076**			**2,054**			**1,201**
08:00-08:59	1,970	2,440	**4,409**			**2,860**			**1,852**
09:00-09:59	1,710	2,049	**3,759**			**3,664**			**2,845**
10:00-10:59	1,707	2,072	**3,779**			**4,213**			**3,610**
11:00-11:59	1,910	2,126	**4,036**			**4,368**			**3,968**
12:00-12:59	2,019	2,248	**4,267**			**4,498**			**4,207**
13:00-13:59	2,144	2,270	**4,414**			**4,336**			**3,983**
14:00-14:59	2,473	2,437	**4,910**			**4,241**			**4,022**
15:00-15:59	2,868	2,813	**5,680**			**4,118**			**3,976**
16:00-16:59	3,562	3,342	**6,903**			**4,176**			**4,024**
17:00-17:59	3,266	3,144	**6,410**			**4,043**			**3,653**
18:00-18:59	2,006	2,124	**4,129**			**3,451**			**3,088**
19:00-19:59	1,489	1,346	**2,835**			**2,713**			**2,403**
20:00-20:59	1,311	1,077	**2,388**			**2,341**			**1,789**
21:00-21:59	1,176	828	**2,004**			**2,281**			**1,368**
22:00-22:59	661	500	**1,161**			**1,466**			**742**
23:00-23:59	313	267	**580**			**837**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	163	241	253
01:00-01:59	219	275	275
02:00-02:59	245	268	254
03:00-03:59	380	285	192
04:00-04:59	911	409	246
05:00-05:59	2,151	744	463
06:00-06:59	3,942	1,162	638
07:00-07:59	5,583	1,887	1,104
08:00-08:59	4,051	2,628	1,702
09:00-09:59	3,453	3,366	2,614
10:00-10:59	3,472	3,871	3,317
11:00-11:59	3,708	4,014	3,646
12:00-12:59	3,920	4,133	3,865
13:00-13:59	4,056	3,985	3,660
14:00-14:59	4,511	3,896	3,696
15:00-15:59	5,219	3,783	3,653
16:00-16:59	6,343	3,837	3,698
17:00-17:59	5,890	3,714	3,357
18:00-18:59	3,794	3,171	2,837
19:00-19:59	2,604	2,493	2,208
20:00-20:59	2,194	2,151	1,644
21:00-21:59	1,841	2,096	1,257
22:00-22:59	1,066	1,347	682
23:00-23:59	532	769	363
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	178,263	8,147	0	186,410
Total Volume	351,250	54,525	45,623	451,397
				41%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

Segment	6c
Target AADT	77,550

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	**178**			**263**			**275**
01:00-01:59	136	103	**238**			**300**			**299**
02:00-02:59	142	125	**267**			**291**			**277**
03:00-03:59	134	281	**414**			**311**			**209**
04:00-04:59	375	617	**992**			**445**			**268**
05:00-05:59	1,078	1,263	**2,341**			**809**			**504**
06:00-06:59	1,768	2,523	**4,291**			**1,265**			**695**
07:00-07:59	2,669	3,407	**6,076**			**2,054**			**1,201**
08:00-08:59	1,970	2,440	**4,409**			**2,860**			**1,852**
09:00-09:59	1,710	2,049	**3,759**			**3,664**			**2,845**
10:00-10:59	1,707	2,072	**3,779**			**4,213**			**3,610**
11:00-11:59	1,910	2,126	**4,036**			**4,368**			**3,968**
12:00-12:59	2,019	2,248	**4,267**			**4,498**			**4,207**
13:00-13:59	2,144	2,270	**4,414**			**4,336**			**3,983**
14:00-14:59	2,473	2,437	**4,910**			**4,241**			**4,022**
15:00-15:59	2,868	2,813	**5,680**			**4,118**			**3,976**
16:00-16:59	3,562	3,342	**6,903**			**4,176**			**4,024**
17:00-17:59	3,266	3,144	**6,410**			**4,043**			**3,653**
18:00-18:59	2,006	2,124	**4,129**			**3,451**			**3,088**
19:00-19:59	1,489	1,346	**2,835**			**2,713**			**2,403**
20:00-20:59	1,311	1,077	**2,388**			**2,341**			**1,789**
21:00-21:59	1,176	828	**2,004**			**2,281**			**1,368**
22:00-22:59	661	500	**1,161**			**1,466**			**742**
23:00-23:59	313	267	**580**			**837**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	180	267	279
01:00-01:59	241	304	303
02:00-02:59	270	295	281
03:00-03:59	420	315	212
04:00-04:59	1,006	451	271
05:00-05:59	2,374	821	512
06:00-06:59	4,352	1,283	705
07:00-07:59	6,163	2,083	1,219
08:00-08:59	4,472	2,901	1,878
09:00-09:59	3,812	3,716	2,886
10:00-10:59	3,833	4,273	3,662
11:00-11:59	4,093	4,431	4,025
12:00-12:59	4,328	4,563	4,267
13:00-13:59	4,477	4,399	4,040
14:00-14:59	4,980	4,301	4,080
15:00-15:59	5,761	4,176	4,033
16:00-16:59	7,002	4,236	4,082
17:00-17:59	6,502	4,100	3,705
18:00-18:59	4,188	3,500	3,132
19:00-19:59	2,875	2,752	2,438
20:00-20:59	2,422	2,374	1,814
21:00-21:59	2,033	2,313	1,387
22:00-22:59	1,177	1,487	752
23:00-23:59	588	849	401
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	281,592	34,479	24,526	340,597
Total Volume	387,750	60,190	50,364	498,304
				68%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	6d
Target AADT	69,700

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	**178**			**263**			**275**
01:00-01:59	136	103	**238**			**300**			**299**
02:00-02:59	142	125	**267**			**291**			**277**
03:00-03:59	134	281	**414**			**311**			**209**
04:00-04:59	375	617	**992**			**445**			**268**
05:00-05:59	1,078	1,263	**2,341**			**809**			**504**
06:00-06:59	1,768	2,523	**4,291**			**1,265**			**695**
07:00-07:59	2,669	3,407	**6,076**			**2,054**			**1,201**
08:00-08:59	1,970	2,440	**4,409**			**2,860**			**1,852**
09:00-09:59	1,710	2,049	**3,759**			**3,664**			**2,845**
10:00-10:59	1,707	2,072	**3,779**			**4,213**			**3,610**
11:00-11:59	1,910	2,126	**4,036**			**4,368**			**3,968**
12:00-12:59	2,019	2,248	**4,267**			**4,498**			**4,207**
13:00-13:59	2,144	2,270	**4,414**			**4,336**			**3,983**
14:00-14:59	2,473	2,437	**4,910**			**4,241**			**4,022**
15:00-15:59	2,868	2,813	**5,680**			**4,118**			**3,976**
16:00-16:59	3,562	3,342	**6,903**			**4,176**			**4,024**
17:00-17:59	3,266	3,144	**6,410**			**4,043**			**3,653**
18:00-18:59	2,006	2,124	**4,129**			**3,451**			**3,088**
19:00-19:59	1,489	1,346	**2,835**			**2,713**			**2,403**
20:00-20:59	1,311	1,077	**2,388**			**2,341**			**1,789**
21:00-21:59	1,176	828	**2,004**			**2,281**			**1,368**
22:00-22:59	661	500	**1,161**			**1,466**			**742**
23:00-23:59	313	267	**580**			**837**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	162	240	251
01:00-01:59	217	273	272
02:00-02:59	243	266	252
03:00-03:59	377	283	191
04:00-04:59	904	406	244
05:00-05:59	2,134	738	460
06:00-06:59	3,911	1,153	633
07:00-07:59	5,539	1,872	1,095
08:00-08:59	4,019	2,607	1,688
09:00-09:59	3,426	3,340	2,594
10:00-10:59	3,445	3,841	3,291
11:00-11:59	3,679	3,982	3,618
12:00-12:59	3,890	4,101	3,835
13:00-13:59	4,024	3,953	3,631
14:00-14:59	4,476	3,866	3,667
15:00-15:59	5,178	3,754	3,624
16:00-16:59	6,293	3,807	3,669
17:00-17:59	5,844	3,685	3,330
18:00-18:59	3,764	3,146	2,815
19:00-19:59	2,584	2,474	2,191
20:00-20:59	2,177	2,134	1,631
21:00-21:59	1,827	2,079	1,247
22:00-22:59	1,058	1,336	676
23:00-23:59	528	763	360
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	176,868	4,101	0	180,968
Total Volume	348,500	54,098	45,266	447,863
				40%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 EAST OF CTH E APPLETON
Site #	441218
Trend ID	4 - ATR

Segment	7a
Target AADT	61,150

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	174	178	**353**	262	260	**522**	261	285	**546**
01:00-01:59	146	125	**272**	166	176	**342**	160	181	**341**
02:00-02:59	132	144	**275**	137	164	**301**	134	152	**286**
03:00-03:59	137	276	**413**	114	196	**310**	87	122	**209**
04:00-04:59	375	593	**968**	180	254	**434**	113	148	**261**
05:00-05:59	977	1,195	**2,172**	330	421	**751**	207	261	**468**
06:00-06:59	1,651	2,413	**4,064**	528	670	**1,198**	292	366	**658**
07:00-07:59	2,365	3,380	**5,745**	814	1,128	**1,942**	479	657	**1,136**
08:00-08:59	1,825	2,418	**4,243**	1,184	1,568	**2,752**	818	964	**1,782**
09:00-09:59	1,653	1,979	**3,633**	1,558	1,983	**3,541**	1,281	1,469	**2,750**
10:00-10:59	1,769	1,987	**3,756**	1,905	2,283	**4,188**	1,619	1,970	**3,589**
11:00-11:59	1,971	2,095	**4,067**	2,089	2,313	**4,402**	1,855	2,144	**3,999**
12:00-12:59	2,071	2,192	**4,263**	2,190	2,304	**4,494**	2,018	2,185	**4,203**
13:00-13:59	2,158	2,237	**4,395**	2,120	2,198	**4,318**	1,891	2,075	**3,966**
14:00-14:59	2,501	2,348	**4,849**	2,147	2,041	**4,188**	1,911	2,061	**3,972**
15:00-15:59	3,063	2,659	**5,722**	2,142	2,006	**4,148**	1,917	2,088	**4,005**
16:00-16:59	3,610	2,974	**6,584**	2,102	1,881	**3,983**	1,895	1,943	**3,838**
17:00-17:59	3,091	2,721	**5,811**	1,953	1,712	**3,665**	1,668	1,644	**3,312**
18:00-18:59	1,918	1,736	**3,654**	1,607	1,447	**3,054**	1,392	1,341	**2,733**
19:00-19:59	1,353	1,142	**2,496**	1,286	1,103	**2,389**	1,055	1,061	**2,116**
20:00-20:59	1,126	909	**2,034**	1,085	909	**1,994**	747	777	**1,524**
21:00-21:59	838	714	**1,552**	915	851	**1,766**	527	532	**1,059**
22:00-22:59	537	506	**1,044**	643	675	**1,318**	334	333	**667**
23:00-23:59	306	316	**622**	406	492	**898**	189	235	**424**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	148%	155%
0.4%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
5.0%	97%	76%
5.1%	111%	96%
5.6%	108%	98%
5.8%	105%	99%
6.0%	98%	90%
6.6%	86%	82%
7.8%	72%	70%
9.0%	60%	58%
8.0%	63%	57%
5.0%	84%	75%
3.4%	96%	85%
2.8%	98%	75%
2.1%	114%	68%
1.4%	126%	64%
0.9%	144%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	295	437	457
01:00-01:59	228	287	286
02:00-02:59	231	252	240
03:00-03:59	346	260	175
04:00-04:59	811	364	219
05:00-05:59	1,820	629	392
06:00-06:59	3,405	1,004	551
07:00-07:59	4,813	1,627	952
08:00-08:59	3,555	2,306	1,493
09:00-09:59	3,044	2,967	2,304
10:00-10:59	3,147	3,509	3,007
11:00-11:59	3,407	3,688	3,351
12:00-12:59	3,571	3,765	3,521
13:00-13:59	3,682	3,618	3,323
14:00-14:59	4,063	3,509	3,328
15:00-15:59	4,794	3,475	3,356
16:00-16:59	5,516	3,337	3,216
17:00-17:59	4,869	3,071	2,775
18:00-18:59	3,062	2,559	2,290
19:00-19:59	2,091	2,002	1,773
20:00-20:59	1,705	1,671	1,277
21:00-21:59	1,300	1,480	887
22:00-22:59	874	1,104	559
23:00-23:59	521	752	355
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	120,275	0	0	120,275
Total Volume	305,750	47,671	40,086	393,507
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 EAST OF CTH E APPLETON
Site #	441218
Trend ID	4 - ATR

Segment	7b
Target AADT	69,150

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	174	178	**353**	262	260	**522**	261	285	**546**
01:00-01:59	146	125	**272**	166	176	**342**	160	181	**341**
02:00-02:59	132	144	**275**	137	164	**301**	134	152	**286**
03:00-03:59	137	276	**413**	114	196	**310**	87	122	**209**
04:00-04:59	375	593	**968**	180	254	**434**	113	148	**261**
05:00-05:59	977	1,195	**2,172**	330	421	**751**	207	261	**468**
06:00-06:59	1,651	2,413	**4,064**	528	670	**1,198**	292	366	**658**
07:00-07:59	2,365	3,380	**5,745**	814	1,128	**1,942**	479	657	**1,136**
08:00-08:59	1,825	2,418	**4,243**	1,184	1,568	**2,752**	818	964	**1,782**
09:00-09:59	1,653	1,979	**3,633**	1,558	1,983	**3,541**	1,281	1,469	**2,750**
10:00-10:59	1,769	1,987	**3,756**	1,905	2,283	**4,188**	1,619	1,970	**3,589**
11:00-11:59	1,971	2,095	**4,067**	2,089	2,313	**4,402**	1,855	2,144	**3,999**
12:00-12:59	2,071	2,192	**4,263**	2,190	2,304	**4,494**	2,018	2,185	**4,203**
13:00-13:59	2,158	2,237	**4,395**	2,120	2,198	**4,318**	1,891	2,075	**3,966**
14:00-14:59	2,501	2,348	**4,849**	2,147	2,041	**4,188**	1,911	2,061	**3,972**
15:00-15:59	3,063	2,659	**5,722**	2,142	2,006	**4,148**	1,917	2,088	**4,005**
16:00-16:59	3,610	2,974	**6,584**	2,102	1,881	**3,983**	1,895	1,943	**3,838**
17:00-17:59	3,091	2,721	**5,811**	1,953	1,712	**3,665**	1,668	1,644	**3,312**
18:00-18:59	1,918	1,736	**3,654**	1,607	1,447	**3,054**	1,392	1,341	**2,733**
19:00-19:59	1,353	1,142	**2,496**	1,286	1,103	**2,389**	1,055	1,061	**2,116**
20:00-20:59	1,126	909	**2,034**	1,085	909	**1,994**	747	777	**1,524**
21:00-21:59	838	714	**1,552**	915	851	**1,766**	527	532	**1,059**
22:00-22:59	537	506	**1,044**	643	675	**1,318**	334	333	**667**
23:00-23:59	306	316	**622**	406	492	**898**	189	235	**424**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	148%	155%
0.4%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
5.0%	97%	76%
5.1%	111%	96%
5.6%	108%	98%
5.8%	105%	99%
6.0%	98%	90%
6.6%	86%	82%
7.8%	72%	70%
9.0%	60%	58%
8.0%	63%	57%
5.0%	84%	75%
3.4%	96%	85%
2.8%	98%	75%
2.1%	114%	68%
1.4%	126%	64%
0.9%	144%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	334	495	517
01:00-01:59	257	324	323
02:00-02:59	261	285	271
03:00-03:59	391	294	198
04:00-04:59	917	411	247
05:00-05:59	2,058	712	443
06:00-06:59	3,850	1,135	623
07:00-07:59	5,443	1,840	1,076
08:00-08:59	4,020	2,607	1,688
09:00-09:59	3,442	3,355	2,605
10:00-10:59	3,559	3,968	3,400
11:00-11:59	3,853	4,171	3,789
12:00-12:59	4,039	4,258	3,982
13:00-13:59	4,164	4,091	3,758
14:00-14:59	4,594	3,968	3,763
15:00-15:59	5,421	3,930	3,795
16:00-16:59	6,238	3,774	3,636
17:00-17:59	5,506	3,472	3,138
18:00-18:59	3,462	2,894	2,589
19:00-19:59	2,364	2,263	2,005
20:00-20:59	1,927	1,889	1,444
21:00-21:59	1,470	1,673	1,003
22:00-22:59	989	1,249	632
23:00-23:59	589	851	402
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	197,123	12,520	0	209,643
Total Volume	345,750	53,908	45,330	444,988
				47%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 EAST OF CTH E APPLETON
Site #	441218
Trend ID	4 - ATR

Segment	7c
Target AADT	79,850

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	174	178	**353**	262	260	**522**	261	285	**546**
01:00-01:59	146	125	**272**	166	176	**342**	160	181	**341**
02:00-02:59	132	144	**275**	137	164	**301**	134	152	**286**
03:00-03:59	137	276	**413**	114	196	**310**	87	122	**209**
04:00-04:59	375	593	**968**	180	254	**434**	113	148	**261**
05:00-05:59	977	1,195	**2,172**	330	421	**751**	207	261	**468**
06:00-06:59	1,651	2,413	**4,064**	528	670	**1,198**	292	366	**658**
07:00-07:59	2,365	3,380	**5,745**	814	1,128	**1,942**	479	657	**1,136**
08:00-08:59	1,825	2,418	**4,243**	1,184	1,568	**2,752**	818	964	**1,782**
09:00-09:59	1,653	1,979	**3,633**	1,558	1,983	**3,541**	1,281	1,469	**2,750**
10:00-10:59	1,769	1,987	**3,756**	1,905	2,283	**4,188**	1,619	1,970	**3,589**
11:00-11:59	1,971	2,095	**4,067**	2,089	2,313	**4,402**	1,855	2,144	**3,999**
12:00-12:59	2,071	2,192	**4,263**	2,190	2,304	**4,494**	2,018	2,185	**4,203**
13:00-13:59	2,158	2,237	**4,395**	2,120	2,198	**4,318**	1,891	2,075	**3,966**
14:00-14:59	2,501	2,348	**4,849**	2,147	2,041	**4,188**	1,911	2,061	**3,972**
15:00-15:59	3,063	2,659	**5,722**	2,142	2,006	**4,148**	1,917	2,088	**4,005**
16:00-16:59	3,610	2,974	**6,584**	2,102	1,881	**3,983**	1,895	1,943	**3,838**
17:00-17:59	3,091	2,721	**5,811**	1,953	1,712	**3,665**	1,668	1,644	**3,312**
18:00-18:59	1,918	1,736	**3,654**	1,607	1,447	**3,054**	1,392	1,341	**2,733**
19:00-19:59	1,353	1,142	**2,496**	1,286	1,103	**2,389**	1,055	1,061	**2,116**
20:00-20:59	1,126	909	**2,034**	1,085	909	**1,994**	747	777	**1,524**
21:00-21:59	838	714	**1,552**	915	851	**1,766**	527	532	**1,059**
22:00-22:59	537	506	**1,044**	643	675	**1,318**	334	333	**667**
23:00-23:59	306	316	**622**	406	492	**898**	189	235	**424**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	148%	155%
0.4%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
5.0%	97%	76%
5.1%	111%	96%
5.6%	108%	98%
5.8%	105%	99%
6.0%	98%	90%
6.6%	86%	82%
7.8%	72%	70%
9.0%	60%	58%
8.0%	63%	57%
5.0%	84%	75%
3.4%	96%	85%
2.8%	98%	75%
2.1%	114%	68%
1.4%	126%	64%
0.9%	144%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	386	571	597
01:00-01:59	297	374	373
02:00-02:59	301	329	313
03:00-03:59	452	339	229
04:00-04:59	1,059	475	286
05:00-05:59	2,376	822	512
06:00-06:59	4,446	1,311	720
07:00-07:59	6,285	2,125	1,243
08:00-08:59	4,642	3,011	1,950
09:00-09:59	3,974	3,874	3,009
10:00-10:59	4,109	4,582	3,927
11:00-11:59	4,449	4,816	4,375
12:00-12:59	4,664	4,917	4,598
13:00-13:59	4,809	4,724	4,339
14:00-14:59	5,305	4,582	4,346
15:00-15:59	6,260	4,538	4,382
16:00-16:59	7,203	4,358	4,199
17:00-17:59	6,358	4,010	3,624
18:00-18:59	3,998	3,341	2,990
19:00-19:59	2,730	2,614	2,315
20:00-20:59	2,226	2,182	1,667
21:00-21:59	1,698	1,932	1,159
22:00-22:59	1,142	1,442	730
23:00-23:59	681	982	464
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	292,651	36,526	26,239	355,415
Total Volume	399,250	62,250	52,344	513,844
				69%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 EAST OF CTH E APPLETON
Site #	441218
Trend ID	4 - ATR

Segment	7d
Target AADT	65,050

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	174	178	**353**	262	260	**522**	261	285	**546**
01:00-01:59	146	125	**272**	166	176	**342**	160	181	**341**
02:00-02:59	132	144	**275**	137	164	**301**	134	152	**286**
03:00-03:59	137	276	**413**	114	196	**310**	87	122	**209**
04:00-04:59	375	593	**968**	180	254	**434**	113	148	**261**
05:00-05:59	977	1,195	**2,172**	330	421	**751**	207	261	**468**
06:00-06:59	1,651	2,413	**4,064**	528	670	**1,198**	292	366	**658**
07:00-07:59	2,365	3,380	**5,745**	814	1,128	**1,942**	479	657	**1,136**
08:00-08:59	1,825	2,418	**4,243**	1,184	1,568	**2,752**	818	964	**1,782**
09:00-09:59	1,653	1,979	**3,633**	1,558	1,983	**3,541**	1,281	1,469	**2,750**
10:00-10:59	1,769	1,987	**3,756**	1,905	2,283	**4,188**	1,619	1,970	**3,589**
11:00-11:59	1,971	2,095	**4,067**	2,089	2,313	**4,402**	1,855	2,144	**3,999**
12:00-12:59	2,071	2,192	**4,263**	2,190	2,304	**4,494**	2,018	2,185	**4,203**
13:00-13:59	2,158	2,237	**4,395**	2,120	2,198	**4,318**	1,891	2,075	**3,966**
14:00-14:59	2,501	2,348	**4,849**	2,147	2,041	**4,188**	1,911	2,061	**3,972**
15:00-15:59	3,063	2,659	**5,722**	2,142	2,006	**4,148**	1,917	2,088	**4,005**
16:00-16:59	3,610	2,974	**6,584**	2,102	1,881	**3,983**	1,895	1,943	**3,838**
17:00-17:59	3,091	2,721	**5,811**	1,953	1,712	**3,665**	1,668	1,644	**3,312**
18:00-18:59	1,918	1,736	**3,654**	1,607	1,447	**3,054**	1,392	1,341	**2,733**
19:00-19:59	1,353	1,142	**2,496**	1,286	1,103	**2,389**	1,055	1,061	**2,116**
20:00-20:59	1,126	909	**2,034**	1,085	909	**1,994**	747	777	**1,524**
21:00-21:59	838	714	**1,552**	915	851	**1,766**	527	532	**1,059**
22:00-22:59	537	506	**1,044**	643	675	**1,318**	334	333	**667**
23:00-23:59	306	316	**622**	406	492	**898**	189	235	**424**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	148%	155%
0.4%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
5.0%	97%	76%
5.1%	111%	96%
5.6%	108%	98%
5.8%	105%	99%
6.0%	98%	90%
6.6%	86%	82%
7.8%	72%	70%
9.0%	60%	58%
8.0%	63%	57%
5.0%	84%	75%
3.4%	96%	85%
2.8%	98%	75%
2.1%	114%	68%
1.4%	126%	64%
0.9%	144%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	314	465	487
01:00-01:59	242	305	304
02:00-02:59	245	268	255
03:00-03:59	368	276	186
04:00-04:59	863	387	233
05:00-05:59	1,936	669	417
06:00-06:59	3,622	1,068	586
07:00-07:59	5,120	1,731	1,012
08:00-08:59	3,781	2,453	1,588
09:00-09:59	3,238	3,156	2,451
10:00-10:59	3,348	3,733	3,199
11:00-11:59	3,625	3,923	3,564
12:00-12:59	3,799	4,005	3,746
13:00-13:59	3,917	3,849	3,535
14:00-14:59	4,322	3,733	3,540
15:00-15:59	5,100	3,697	3,570
16:00-16:59	5,868	3,550	3,421
17:00-17:59	5,180	3,267	2,952
18:00-18:59	3,257	2,722	2,436
19:00-19:59	2,224	2,129	1,886
20:00-20:59	1,813	1,777	1,358
21:00-21:59	1,383	1,574	944
22:00-22:59	930	1,175	594
23:00-23:59	554	800	378
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	127,946	4,005	0	131,952
Total Volume	325,250	50,712	42,642	418,604
				32%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

Segment	8a
Target AADT	52,150

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	**338**	253	259	**512**	266	281	**547**
01:00-01:59	133	121	**254**	161	174	**335**	173	181	**354**
02:00-02:59	128	140	**268**	146	162	**308**	149	150	**299**
03:00-03:59	147	239	**387**	119	176	**295**	93	119	**212**
04:00-04:59	406	475	**881**	192	219	**411**	119	131	**250**
05:00-05:59	1,120	1,081	**2,201**	373	379	**752**	244	230	**474**
06:00-06:59	1,883	2,125	**4,008**	536	613	**1,149**	313	347	**660**
07:00-07:59	2,547	2,891	**5,439**	792	947	**1,739**	484	527	**1,011**
08:00-08:59	1,796	1,974	**3,771**	1,102	1,269	**2,371**	768	778	**1,546**
09:00-09:59	1,590	1,646	**3,236**	1,458	1,569	**3,027**	1,195	1,166	**2,361**
10:00-10:59	1,624	1,650	**3,274**	1,758	1,784	**3,542**	1,427	1,548	**2,975**
11:00-11:59	1,762	1,749	**3,511**	1,901	1,856	**3,757**	1,595	1,772	**3,367**
12:00-12:59	1,852	1,833	**3,684**	1,938	1,854	**3,792**	1,690	1,822	**3,512**
13:00-13:59	1,950	1,882	**3,832**	1,871	1,790	**3,661**	1,631	1,746	**3,377**
14:00-14:59	2,212	2,070	**4,281**	1,863	1,703	**3,566**	1,637	1,775	**3,412**
15:00-15:59	2,618	2,408	**5,026**	1,861	1,693	**3,554**	1,636	1,838	**3,474**
16:00-16:59	3,120	2,856	**5,976**	1,844	1,604	**3,448**	1,632	1,748	**3,380**
17:00-17:59	2,702	2,555	**5,256**	1,733	1,494	**3,227**	1,464	1,542	**3,006**
18:00-18:59	1,631	1,506	**3,137**	1,398	1,293	**2,691**	1,214	1,275	**2,489**
19:00-19:59	1,147	954	**2,100**	1,117	979	**2,096**	946	980	**1,926**
20:00-20:59	942	785	**1,727**	957	834	**1,791**	714	724	**1,438**
21:00-21:59	731	629	**1,360**	823	820	**1,643**	522	506	**1,028**
22:00-22:59	488	483	**971**	611	689	**1,300**	325	334	**659**
23:00-23:59	294	310	**604**	393	488	**881**	189	261	**450**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.5%	151%	162%
	0.4%	132%	139%
	0.4%	115%	112%
	0.6%	76%	55%
	1.3%	47%	28%
	3.4%	34%	22%
	6.1%	29%	16%
	8.3%	32%	19%
	5.8%	63%	41%
	4.9%	94%	73%
	5.0%	108%	91%
	5.4%	107%	96%
	5.6%	103%	95%
	5.8%	96%	88%
	6.5%	83%	80%
	7.7%	71%	69%
	9.1%	58%	57%
	8.0%	61%	57%
	4.8%	86%	79%
	3.2%	100%	92%
	2.6%	104%	83%
	2.1%	121%	76%
	1.5%	134%	68%
	0.9%	146%	75%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	269	408	435
01:00-01:59	202	267	282
02:00-02:59	213	245	238
03:00-03:59	308	235	169
04:00-04:59	701	327	199
05:00-05:59	1,752	599	377
06:00-06:59	3,190	915	525
07:00-07:59	4,329	1,384	805
08:00-08:59	3,001	1,887	1,230
09:00-09:59	2,576	2,409	1,879
10:00-10:59	2,606	2,819	2,368
11:00-11:59	2,794	2,990	2,680
12:00-12:59	2,932	3,018	2,795
13:00-13:59	3,050	2,914	2,688
14:00-14:59	3,408	2,838	2,716
15:00-15:59	4,000	2,829	2,765
16:00-16:59	4,757	2,744	2,690
17:00-17:59	4,184	2,568	2,393
18:00-18:59	2,497	2,142	1,981
19:00-19:59	1,672	1,668	1,533
20:00-20:59	1,374	1,425	1,145
21:00-21:59	1,082	1,308	818
22:00-22:59	773	1,035	525
23:00-23:59	481	701	358
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	86,346	0	0	86,346
Total Volume	260,750	39,675	33,594	334,019
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

Segment	8b
Target AADT	61,050

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	**338**	253	259	**512**	266	281	**547**
01:00-01:59	133	121	**254**	161	174	**335**	173	181	**354**
02:00-02:59	128	140	**268**	146	162	**308**	149	150	**299**
03:00-03:59	147	239	**387**	119	176	**295**	93	119	**212**
04:00-04:59	406	475	**881**	192	219	**411**	119	131	**250**
05:00-05:59	1,120	1,081	**2,201**	373	379	**752**	244	230	**474**
06:00-06:59	1,883	2,125	**4,008**	536	613	**1,149**	313	347	**660**
07:00-07:59	2,547	2,891	**5,439**	792	947	**1,739**	484	527	**1,011**
08:00-08:59	1,796	1,974	**3,771**	1,102	1,269	**2,371**	768	778	**1,546**
09:00-09:59	1,590	1,646	**3,236**	1,458	1,569	**3,027**	1,195	1,166	**2,361**
10:00-10:59	1,624	1,650	**3,274**	1,758	1,784	**3,542**	1,427	1,548	**2,975**
11:00-11:59	1,762	1,749	**3,511**	1,901	1,856	**3,757**	1,595	1,772	**3,367**
12:00-12:59	1,852	1,833	**3,684**	1,938	1,854	**3,792**	1,690	1,822	**3,512**
13:00-13:59	1,950	1,882	**3,832**	1,871	1,790	**3,661**	1,631	1,746	**3,377**
14:00-14:59	2,212	2,070	**4,281**	1,863	1,703	**3,566**	1,637	1,775	**3,412**
15:00-15:59	2,618	2,408	**5,026**	1,861	1,693	**3,554**	1,636	1,838	**3,474**
16:00-16:59	3,120	2,856	**5,976**	1,844	1,604	**3,448**	1,632	1,748	**3,380**
17:00-17:59	2,702	2,555	**5,256**	1,733	1,494	**3,227**	1,464	1,542	**3,006**
18:00-18:59	1,631	1,506	**3,137**	1,398	1,293	**2,691**	1,214	1,275	**2,489**
19:00-19:59	1,147	954	**2,100**	1,117	979	**2,096**	946	980	**1,926**
20:00-20:59	942	785	**1,727**	957	834	**1,791**	714	724	**1,438**
21:00-21:59	731	629	**1,360**	823	820	**1,643**	522	506	**1,028**
22:00-22:59	488	483	**971**	611	689	**1,300**	325	334	**659**
23:00-23:59	294	310	**604**	393	488	**881**	189	261	**450**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	315	477	510
01:00-01:59	237	312	330
02:00-02:59	250	287	279
03:00-03:59	360	275	198
04:00-04:59	821	383	233
05:00-05:59	2,050	701	442
06:00-06:59	3,734	1,071	615
07:00-07:59	5,067	1,620	942
08:00-08:59	3,513	2,209	1,440
09:00-09:59	3,015	2,820	2,200
10:00-10:59	3,050	3,300	2,772
11:00-11:59	3,271	3,501	3,137
12:00-12:59	3,433	3,533	3,272
13:00-13:59	3,570	3,411	3,147
14:00-14:59	3,989	3,323	3,179
15:00-15:59	4,683	3,311	3,237
16:00-16:59	5,568	3,213	3,149
17:00-17:59	4,898	3,007	2,801
18:00-18:59	2,923	2,507	2,319
19:00-19:59	1,957	1,953	1,795
20:00-20:59	1,609	1,669	1,340
21:00-21:59	1,267	1,531	958
22:00-22:59	905	1,211	614
23:00-23:59	563	821	419
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	101,082	0	0	101,082
Total Volume	305,250	46,446	39,327	391,023
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	8c
Target AADT	68,350

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	**338**	253	259	**512**	266	281	**547**
01:00-01:59	133	121	**254**	161	174	**335**	173	181	**354**
02:00-02:59	128	140	**268**	146	162	**308**	149	150	**299**
03:00-03:59	147	239	**387**	119	176	**295**	93	119	**212**
04:00-04:59	406	475	**881**	192	219	**411**	119	131	**250**
05:00-05:59	1,120	1,081	**2,201**	373	379	**752**	244	230	**474**
06:00-06:59	1,883	2,125	**4,008**	536	613	**1,149**	313	347	**660**
07:00-07:59	2,547	2,891	**5,439**	792	947	**1,739**	484	527	**1,011**
08:00-08:59	1,796	1,974	**3,771**	1,102	1,269	**2,371**	768	778	**1,546**
09:00-09:59	1,590	1,646	**3,236**	1,458	1,569	**3,027**	1,195	1,166	**2,361**
10:00-10:59	1,624	1,650	**3,274**	1,758	1,784	**3,542**	1,427	1,548	**2,975**
11:00-11:59	1,762	1,749	**3,511**	1,901	1,856	**3,757**	1,595	1,772	**3,367**
12:00-12:59	1,852	1,833	**3,684**	1,938	1,854	**3,792**	1,690	1,822	**3,512**
13:00-13:59	1,950	1,882	**3,832**	1,871	1,790	**3,661**	1,631	1,746	**3,377**
14:00-14:59	2,212	2,070	**4,281**	1,863	1,703	**3,566**	1,637	1,775	**3,412**
15:00-15:59	2,618	2,408	**5,026**	1,861	1,693	**3,554**	1,636	1,838	**3,474**
16:00-16:59	3,120	2,856	**5,976**	1,844	1,604	**3,448**	1,632	1,748	**3,380**
17:00-17:59	2,702	2,555	**5,256**	1,733	1,494	**3,227**	1,464	1,542	**3,006**
18:00-18:59	1,631	1,506	**3,137**	1,398	1,293	**2,691**	1,214	1,275	**2,489**
19:00-19:59	1,147	954	**2,100**	1,117	979	**2,096**	946	980	**1,926**
20:00-20:59	942	785	**1,727**	957	834	**1,791**	714	724	**1,438**
21:00-21:59	731	629	**1,360**	823	820	**1,643**	522	506	**1,028**
22:00-22:59	488	483	**971**	611	689	**1,300**	325	334	**659**
23:00-23:59	294	310	**604**	393	488	**881**	189	261	**450**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	353	534	571
01:00-01:59	265	349	369
02:00-02:59	280	321	312
03:00-03:59	403	308	221
04:00-04:59	919	429	261
05:00-05:59	2,296	784	494
06:00-06:59	4,181	1,199	688
07:00-07:59	5,673	1,814	1,055
08:00-08:59	3,933	2,473	1,613
09:00-09:59	3,376	3,158	2,463
10:00-10:59	3,415	3,695	3,103
11:00-11:59	3,663	3,919	3,512
12:00-12:59	3,843	3,956	3,664
13:00-13:59	3,997	3,819	3,523
14:00-14:59	4,466	3,720	3,559
15:00-15:59	5,243	3,707	3,624
16:00-16:59	6,234	3,597	3,526
17:00-17:59	5,483	3,366	3,136
18:00-18:59	3,272	2,807	2,596
19:00-19:59	2,191	2,186	2,009
20:00-20:59	1,801	1,868	1,500
21:00-21:59	1,419	1,714	1,072
22:00-22:59	1,013	1,356	687
23:00-23:59	630	919	469
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	156,404	0	0	156,404
Total Volume	341,750	52,000	44,029	437,779
				36%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

Segment	8d
Target AADT	62,950

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	**338**	253	259	**512**	266	281	**547**
01:00-01:59	133	121	**254**	161	174	**335**	173	181	**354**
02:00-02:59	128	140	**268**	146	162	**308**	149	150	**299**
03:00-03:59	147	239	**387**	119	176	**295**	93	119	**212**
04:00-04:59	406	475	**881**	192	219	**411**	119	131	**250**
05:00-05:59	1,120	1,081	**2,201**	373	379	**752**	244	230	**474**
06:00-06:59	1,883	2,125	**4,008**	536	613	**1,149**	313	347	**660**
07:00-07:59	2,547	2,891	**5,439**	792	947	**1,739**	484	527	**1,011**
08:00-08:59	1,796	1,974	**3,771**	1,102	1,269	**2,371**	768	778	**1,546**
09:00-09:59	1,590	1,646	**3,236**	1,458	1,569	**3,027**	1,195	1,166	**2,361**
10:00-10:59	1,624	1,650	**3,274**	1,758	1,784	**3,542**	1,427	1,548	**2,975**
11:00-11:59	1,762	1,749	**3,511**	1,901	1,856	**3,757**	1,595	1,772	**3,367**
12:00-12:59	1,852	1,833	**3,684**	1,938	1,854	**3,792**	1,690	1,822	**3,512**
13:00-13:59	1,950	1,882	**3,832**	1,871	1,790	**3,661**	1,631	1,746	**3,377**
14:00-14:59	2,212	2,070	**4,281**	1,863	1,703	**3,566**	1,637	1,775	**3,412**
15:00-15:59	2,618	2,408	**5,026**	1,861	1,693	**3,554**	1,636	1,838	**3,474**
16:00-16:59	3,120	2,856	**5,976**	1,844	1,604	**3,448**	1,632	1,748	**3,380**
17:00-17:59	2,702	2,555	**5,256**	1,733	1,494	**3,227**	1,464	1,542	**3,006**
18:00-18:59	1,631	1,506	**3,137**	1,398	1,293	**2,691**	1,214	1,275	**2,489**
19:00-19:59	1,147	954	**2,100**	1,117	979	**2,096**	946	980	**1,926**
20:00-20:59	942	785	**1,727**	957	834	**1,791**	714	724	**1,438**
21:00-21:59	731	629	**1,360**	823	820	**1,643**	522	506	**1,028**
22:00-22:59	488	483	**971**	611	689	**1,300**	325	334	**659**
23:00-23:59	294	310	**604**	393	488	**881**	189	261	**450**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	325	492	526
01:00-01:59	244	322	340
02:00-02:59	257	296	287
03:00-03:59	371	283	204
04:00-04:59	847	395	240
05:00-05:59	2,114	722	455
06:00-06:59	3,851	1,104	634
07:00-07:59	5,225	1,671	971
08:00-08:59	3,623	2,278	1,485
09:00-09:59	3,109	2,908	2,268
10:00-10:59	3,145	3,403	2,858
11:00-11:59	3,373	3,610	3,235
12:00-12:59	3,540	3,643	3,374
13:00-13:59	3,682	3,517	3,244
14:00-14:59	4,113	3,426	3,278
15:00-15:59	4,829	3,415	3,338
16:00-16:59	5,742	3,313	3,247
17:00-17:59	5,050	3,100	2,888
18:00-18:59	3,014	2,585	2,391
19:00-19:59	2,018	2,014	1,850
20:00-20:59	1,659	1,721	1,382
21:00-21:59	1,306	1,579	988
22:00-22:59	933	1,249	633
23:00-23:59	580	846	432
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	124,794	0	0	124,794
Total Volume	314,750	47,892	40,551	403,192
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	9a
Target AADT	57,800

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH N & STH 55
Site #	440161
Trend ID	4 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	166	174	**174**			**263**			**281**
01:00-01:59	130	107	**237**			**312**			**330**
02:00-02:59	115	112	**227**			**261**			**253**
03:00-03:59	147	208	**355**			**271**			**195**
04:00-04:59	355	391	**746**			**348**			**212**
05:00-05:59	1,148	933	**2,081**			**711**			**448**
06:00-06:59	1,861	1,993	**3,854**			**1,105**			**635**
07:00-07:59	2,541	2,568	**5,109**			**1,633**			**950**
08:00-08:59	1,713	1,838	**3,551**			**2,233**			**1,456**
09:00-09:59	1,486	1,486	**2,972**			**2,780**			**2,168**
10:00-10:59	1,498	1,436	**2,934**			**3,174**			**2,666**
11:00-11:59	1,604	1,577	**3,181**			**3,404**			**3,051**
12:00-12:59	1,607	1,632	**3,239**			**3,333**			**3,087**
13:00-13:59	1,655	1,628	**3,282**			**3,136**			**2,892**
14:00-14:59	1,853	1,896	**3,749**			**3,122**			**2,987**
15:00-15:59	2,199	2,231	**4,430**			**3,133**			**3,062**
16:00-16:59	2,762	2,830	**5,592**			**3,226**			**3,163**
17:00-17:59	2,490	2,608	**5,098**			**3,129**			**2,915**
18:00-18:59	1,479	1,498	**2,977**			**2,553**			**2,362**
19:00-19:59	1,064	959	**2,023**			**2,019**			**1,855**
20:00-20:59	927	866	**1,793**			**1,859**			**1,493**
21:00-21:59	765	709	**1,474**			**1,781**			**1,114**
22:00-22:59	442	480	**922**			**1,234**			**626**
23:00-23:59	262	268	**530**			**773**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.2%	47%	28%
3.4%	34%	22%
6.4%	29%	16%
8.4%	32%	19%
5.9%	63%	41%
4.9%	94%	73%
4.8%	108%	91%
5.3%	107%	96%
5.4%	103%	95%
5.4%	96%	88%
6.2%	83%	80%
7.3%	71%	69%
9.2%	58%	57%
8.4%	61%	57%
4.9%	86%	79%
3.3%	100%	92%
3.0%	104%	83%
2.4%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

*Trends from ATR 440103

High Volume Hour Calculations

			D
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	166	251	269
01:00-01:59	226	298	315
02:00-02:59	217	249	242
03:00-03:59	339	259	186
04:00-04:59	712	332	202
05:00-05:59	1,987	679	428
06:00-06:59	3,680	1,055	606
07:00-07:59	4,879	1,560	907
08:00-08:59	3,391	2,132	1,390
09:00-09:59	2,838	2,654	2,070
10:00-10:59	2,801	3,031	2,546
11:00-11:59	3,038	3,251	2,913
12:00-12:59	3,093	3,183	2,948
13:00-13:59	3,134	2,994	2,762
14:00-14:59	3,580	2,982	2,853
15:00-15:59	4,231	2,992	2,924
16:00-16:59	5,340	3,081	3,020
17:00-17:59	4,868	2,989	2,784
18:00-18:59	2,842	2,438	2,255
19:00-19:59	1,932	1,928	1,772
20:00-20:59	1,712	1,776	1,426
21:00-21:59	1,408	1,701	1,064
22:00-22:59	880	1,179	598
23:00-23:59	506	739	377
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	96,586	0	0	96,586
Total Volume	289,000	43,732	36,857	369,589
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	9b
Target AADT	60,200

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH N & STH 55
Site #	440161
Trend ID	4 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	166	174	**174**			**263**			**281**
01:00-01:59	130	107	**237**			**312**			**330**
02:00-02:59	115	112	**227**			**261**			**253**
03:00-03:59	147	208	**355**			**271**			**195**
04:00-04:59	355	391	**746**			**348**			**212**
05:00-05:59	1,148	933	**2,081**			**711**			**448**
06:00-06:59	1,861	1,993	**3,854**			**1,105**			**635**
07:00-07:59	2,541	2,568	**5,109**			**1,633**			**950**
08:00-08:59	1,713	1,838	**3,551**			**2,233**			**1,456**
09:00-09:59	1,486	1,486	**2,972**			**2,780**			**2,168**
10:00-10:59	1,498	1,436	**2,934**			**3,174**			**2,666**
11:00-11:59	1,604	1,577	**3,181**			**3,404**			**3,051**
12:00-12:59	1,607	1,632	**3,239**			**3,333**			**3,087**
13:00-13:59	1,655	1,628	**3,282**			**3,136**			**2,892**
14:00-14:59	1,853	1,896	**3,749**			**3,122**			**2,987**
15:00-15:59	2,199	2,231	**4,430**			**3,133**			**3,062**
16:00-16:59	2,762	2,830	**5,592**			**3,226**			**3,163**
17:00-17:59	2,490	2,608	**5,098**			**3,129**			**2,915**
18:00-18:59	1,479	1,498	**2,977**			**2,553**			**2,362**
19:00-19:59	1,064	959	**2,023**			**2,019**			**1,855**
20:00-20:59	927	866	**1,793**			**1,859**			**1,493**
21:00-21:59	765	709	**1,474**			**1,781**			**1,114**
22:00-22:59	442	480	**922**			**1,234**			**626**
23:00-23:59	262	268	**530**			**773**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.2%	47%	28%
3.4%	34%	22%
6.4%	29%	16%
8.4%	32%	19%
5.9%	63%	41%
4.9%	94%	73%
4.8%	108%	91%
5.3%	107%	96%
5.4%	103%	95%
5.4%	96%	88%
6.2%	83%	80%
7.3%	71%	69%
9.2%	58%	57%
8.4%	61%	57%
4.9%	86%	79%
3.3%	100%	92%
3.0%	104%	83%
2.4%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

*Trends from ATR 440103

High Volume Hour Calculations

			D
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	173	262	280
01:00-01:59	236	310	328
02:00-02:59	226	259	252
03:00-03:59	353	269	194
04:00-04:59	741	346	210
05:00-05:59	2,069	707	446
06:00-06:59	3,833	1,099	631
07:00-07:59	5,081	1,625	945
08:00-08:59	3,532	2,221	1,448
09:00-09:59	2,956	2,765	2,156
10:00-10:59	2,918	3,157	2,651
11:00-11:59	3,164	3,386	3,034
12:00-12:59	3,221	3,315	3,071
13:00-13:59	3,264	3,119	2,877
14:00-14:59	3,728	3,105	2,971
15:00-15:59	4,406	3,116	3,046
16:00-16:59	5,562	3,209	3,146
17:00-17:59	5,070	3,113	2,899
18:00-18:59	2,961	2,540	2,349
19:00-19:59	2,012	2,008	1,845
20:00-20:59	1,783	1,849	1,485
21:00-21:59	1,466	1,771	1,108
22:00-22:59	917	1,228	622
23:00-23:59	527	769	393
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	100,597	0	0	100,597
Total Volume	301,000	45,548	38,388	384,936
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	9c
Target AADT	63,250

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH N & STH 55
Site #	440161
Trend ID	4 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	166	174	**174**			**263**			**281**
01:00-01:59	130	107	**237**			**312**			**330**
02:00-02:59	115	112	**227**			**261**			**253**
03:00-03:59	147	208	**355**			**271**			**195**
04:00-04:59	355	391	**746**			**348**			**212**
05:00-05:59	1,148	933	**2,081**			**711**			**448**
06:00-06:59	1,861	1,993	**3,854**			**1,105**			**635**
07:00-07:59	2,541	2,568	**5,109**			**1,633**			**950**
08:00-08:59	1,713	1,838	**3,551**			**2,233**			**1,456**
09:00-09:59	1,486	1,486	**2,972**			**2,780**			**2,168**
10:00-10:59	1,498	1,436	**2,934**			**3,174**			**2,666**
11:00-11:59	1,604	1,577	**3,181**			**3,404**			**3,051**
12:00-12:59	1,607	1,632	**3,239**			**3,333**			**3,087**
13:00-13:59	1,655	1,628	**3,282**			**3,136**			**2,892**
14:00-14:59	1,853	1,896	**3,749**			**3,122**			**2,987**
15:00-15:59	2,199	2,231	**4,430**			**3,133**			**3,062**
16:00-16:59	2,762	2,830	**5,592**			**3,226**			**3,163**
17:00-17:59	2,490	2,608	**5,098**			**3,129**			**2,915**
18:00-18:59	1,479	1,498	**2,977**			**2,553**			**2,362**
19:00-19:59	1,064	959	**2,023**			**2,019**			**1,855**
20:00-20:59	927	866	**1,793**			**1,859**			**1,493**
21:00-21:59	765	709	**1,474**			**1,781**			**1,114**
22:00-22:59	442	480	**922**			**1,234**			**626**
23:00-23:59	262	268	**530**			**773**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.2%	47%	28%
3.4%	34%	22%
6.4%	29%	16%
8.4%	32%	19%
5.9%	63%	41%
4.9%	94%	73%
4.8%	108%	91%
5.3%	107%	96%
5.4%	103%	95%
5.4%	96%	88%
6.2%	83%	80%
7.3%	71%	69%
9.2%	58%	57%
8.4%	61%	57%
4.9%	86%	79%
3.3%	100%	92%
3.0%	104%	83%
2.4%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

**Trends from ATR 440103*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	182	275	294
01:00-01:59	248	326	345
02:00-02:59	237	273	265
03:00-03:59	371	283	203
04:00-04:59	779	363	221
05:00-05:59	2,174	743	468
06:00-06:59	4,028	1,155	663
07:00-07:59	5,338	1,707	992
08:00-08:59	3,711	2,333	1,522
09:00-09:59	3,105	2,905	2,266
10:00-10:59	3,066	3,317	2,786
11:00-11:59	3,324	3,557	3,188
12:00-12:59	3,384	3,483	3,226
13:00-13:59	3,430	3,277	3,023
14:00-14:59	3,917	3,263	3,122
15:00-15:59	4,629	3,274	3,200
16:00-16:59	5,844	3,372	3,305
17:00-17:59	5,327	3,270	3,046
18:00-18:59	3,111	2,668	2,468
19:00-19:59	2,114	2,110	1,939
20:00-20:59	1,873	1,943	1,560
21:00-21:59	1,540	1,861	1,165
22:00-22:59	964	1,290	654
23:00-23:59	554	808	413
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	125,831	0	0	125,831
Total Volume	316,250	47,856	40,332	404,438
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	9d
Target AADT	59,350

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH N & STH 55
Site #	440161
Trend ID	4 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	166	174	**174**			**263**			**281**
01:00-01:59	130	107	**237**			**312**			**330**
02:00-02:59	115	112	**227**			**261**			**253**
03:00-03:59	147	208	**355**			**271**			**195**
04:00-04:59	355	391	**746**			**348**			**212**
05:00-05:59	1,148	933	**2,081**			**711**			**448**
06:00-06:59	1,861	1,993	**3,854**			**1,105**			**635**
07:00-07:59	2,541	2,568	**5,109**			**1,633**			**950**
08:00-08:59	1,713	1,838	**3,551**			**2,233**			**1,456**
09:00-09:59	1,486	1,486	**2,972**			**2,780**			**2,168**
10:00-10:59	1,498	1,436	**2,934**			**3,174**			**2,666**
11:00-11:59	1,604	1,577	**3,181**			**3,404**			**3,051**
12:00-12:59	1,607	1,632	**3,239**			**3,333**			**3,087**
13:00-13:59	1,655	1,628	**3,282**			**3,136**			**2,892**
14:00-14:59	1,853	1,896	**3,749**			**3,122**			**2,987**
15:00-15:59	2,199	2,231	**4,430**			**3,133**			**3,062**
16:00-16:59	2,762	2,830	**5,592**			**3,226**			**3,163**
17:00-17:59	2,490	2,608	**5,098**			**3,129**			**2,915**
18:00-18:59	1,479	1,498	**2,977**			**2,553**			**2,362**
19:00-19:59	1,064	959	**2,023**			**2,019**			**1,855**
20:00-20:59	927	866	**1,793**			**1,859**			**1,493**
21:00-21:59	765	709	**1,474**			**1,781**			**1,114**
22:00-22:59	442	480	**922**			**1,234**			**626**
23:00-23:59	262	268	**530**			**773**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
00:00-00:59	0.3%	151%	162%
01:00-01:59	0.4%	132%	139%
02:00-02:59	0.4%	115%	112%
03:00-03:59	0.6%	76%	55%
04:00-04:59	1.2%	47%	28%
05:00-05:59	3.4%	34%	22%
06:00-06:59	6.4%	29%	16%
07:00-07:59	8.4%	32%	19%
08:00-08:59	5.9%	63%	41%
09:00-09:59	4.9%	94%	73%
10:00-10:59	4.8%	108%	91%
11:00-11:59	5.3%	107%	96%
12:00-12:59	5.4%	103%	95%
13:00-13:59	5.4%	96%	88%
14:00-14:59	6.2%	83%	80%
15:00-15:59	7.3%	71%	69%
16:00-16:59	9.2%	58%	57%
17:00-17:59	8.4%	61%	57%
18:00-18:59	4.9%	86%	79%
19:00-19:59	3.3%	100%	92%
20:00-20:59	3.0%	104%	83%
21:00-21:59	2.4%	121%	76%
22:00-22:59	1.5%	134%	68%
23:00-23:59	0.9%	146%	75%

**Trends from ATR 440103*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	171	258	276
01:00-01:59	232	306	323
02:00-02:59	223	256	248
03:00-03:59	348	266	191
04:00-04:59	731	341	207
05:00-05:59	2,040	697	439
06:00-06:59	3,779	1,083	622
07:00-07:59	5,009	1,602	931
08:00-08:59	3,482	2,190	1,428
09:00-09:59	2,914	2,726	2,126
10:00-10:59	2,877	3,112	2,614
11:00-11:59	3,119	3,338	2,991
12:00-12:59	3,176	3,269	3,027
13:00-13:59	3,218	3,075	2,836
14:00-14:59	3,676	3,062	2,929
15:00-15:59	4,344	3,072	3,003
16:00-16:59	5,483	3,164	3,101
17:00-17:59	4,999	3,069	2,859
18:00-18:59	2,919	2,504	2,316
19:00-19:59	1,984	1,980	1,819
20:00-20:59	1,758	1,823	1,464
21:00-21:59	1,445	1,746	1,093
22:00-22:59	904	1,210	614
23:00-23:59	520	758	387
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	99,177	0	0	99,177
Total Volume	296,750	44,905	37,846	379,501
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	10a
Target AADT	55,350

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440160
Trend ID	5 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	137	139	**139**			**223**			**240**
01:00-01:59	102	107	**209**			**296**			**306**
02:00-02:59	99	113	**212**			**248**			**235**
03:00-03:59	143	143	**286**			**224**			**168**
04:00-04:59	313	357	**670**			**328**			**206**
05:00-05:59	870	888	**1,758**			**579**			**355**
06:00-06:59	1,680	1,832	**3,512**			**997**			**569**
07:00-07:59	2,364	2,507	**4,870**			**1,572**			**903**
08:00-08:59	1,579	1,656	**3,235**			**2,113**			**1,384**
09:00-09:59	1,421	1,353	**2,774**			**2,701**			**2,167**
10:00-10:59	1,258	1,279	**2,537**			**2,838**			**2,559**
11:00-11:59	1,346	1,340	**2,686**			**3,017**			**2,838**
12:00-12:59	1,363	1,423	**2,786**			**3,044**			**2,911**
13:00-13:59	1,408	1,530	**2,938**			**2,990**			**2,875**
14:00-14:59	1,571	1,776	**3,347**			**2,972**			**2,930**
15:00-15:59	1,952	1,988	**3,940**			**2,931**			**2,922**
16:00-16:59	2,415	2,599	**5,014**			**2,930**			**2,868**
17:00-17:59	2,255	2,367	**4,622**			**2,906**			**2,644**
18:00-18:59	1,231	1,261	**2,491**			**2,261**			**2,073**
19:00-19:59	874	833	**1,707**			**1,809**			**1,660**
20:00-20:59	768	690	**1,458**			**1,620**			**1,244**
21:00-21:59	575	562	**1,136**			**1,486**			**857**
22:00-22:59	367	372	**739**			**1,062**			**508**
23:00-23:59	214	213	**427**			**660**			**315**
	Raw coverage count data			*Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.*					

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.5%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.6%	28%	16%
9.1%	32%	19%
6.0%	65%	43%
5.2%	97%	78%
4.7%	112%	101%
5.0%	112%	106%
5.2%	109%	104%
5.5%	102%	98%
6.3%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.6%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.7%	111%	85%
2.1%	131%	75%
1.4%	144%	69%
0.8%	155%	74%
	*Trends from ATR 050001	

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	143	230	248
01:00-01:59	216	306	317
02:00-02:59	219	257	243
03:00-03:59	296	232	174
04:00-04:59	693	340	213
05:00-05:59	1,819	599	367
06:00-06:59	3,634	1,032	589
07:00-07:59	5,040	1,626	935
08:00-08:59	3,347	2,186	1,433
09:00-09:59	2,871	2,795	2,243
10:00-10:59	2,625	2,937	2,649
11:00-11:59	2,780	3,122	2,937
12:00-12:59	2,883	3,150	3,012
13:00-13:59	3,040	3,094	2,975
14:00-14:59	3,464	3,075	3,032
15:00-15:59	4,077	3,033	3,024
16:00-16:59	5,188	3,032	2,967
17:00-17:59	4,782	3,007	2,736
18:00-18:59	2,578	2,339	2,146
19:00-19:59	1,766	1,872	1,718
20:00-20:59	1,509	1,676	1,287
21:00-21:59	1,176	1,538	887
22:00-22:59	764	1,098	526
23:00-23:59	441	683	326
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	95,435	0	0	95,435
Total Volume	276,750	43,259	36,982	356,992
				27%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	10b
Target AADT	57,300

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440160
Trend ID	5 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	137	139	**139**			**223**			**240**
01:00-01:59	102	107	**209**			**296**			**306**
02:00-02:59	99	113	**212**			**248**			**235**
03:00-03:59	143	143	**286**			**224**			**168**
04:00-04:59	313	357	**670**			**328**			**206**
05:00-05:59	870	888	**1,758**			**579**			**355**
06:00-06:59	1,680	1,832	**3,512**			**997**			**569**
07:00-07:59	2,364	2,507	**4,870**			**1,572**			**903**
08:00-08:59	1,579	1,656	**3,235**			**2,113**			**1,384**
09:00-09:59	1,421	1,353	**2,774**			**2,701**			**2,167**
10:00-10:59	1,258	1,279	**2,537**			**2,838**			**2,559**
11:00-11:59	1,346	1,340	**2,686**			**3,017**			**2,838**
12:00-12:59	1,363	1,423	**2,786**			**3,044**			**2,911**
13:00-13:59	1,408	1,530	**2,938**			**2,990**			**2,875**
14:00-14:59	1,571	1,776	**3,347**			**2,972**			**2,930**
15:00-15:59	1,952	1,988	**3,940**			**2,931**			**2,922**
16:00-16:59	2,415	2,599	**5,014**			**2,930**			**2,868**
17:00-17:59	2,255	2,367	**4,622**			**2,906**			**2,644**
18:00-18:59	1,231	1,261	**2,491**			**2,261**			**2,073**
19:00-19:59	874	833	**1,707**			**1,809**			**1,660**
20:00-20:59	768	690	**1,458**			**1,620**			**1,244**
21:00-21:59	575	562	**1,136**			**1,486**			**857**
22:00-22:59	367	372	**739**			**1,062**			**508**
23:00-23:59	214	213	**427**			**660**			**315**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
00:00-00:59	0.3%	161%	173%
01:00-01:59	0.4%	141%	147%
02:00-02:59	0.4%	117%	111%
03:00-03:59	0.5%	78%	59%
04:00-04:59	1.3%	49%	31%
05:00-05:59	3.3%	33%	20%
06:00-06:59	6.6%	28%	16%
07:00-07:59	9.1%	32%	19%
08:00-08:59	6.0%	65%	43%
09:00-09:59	5.2%	97%	78%
10:00-10:59	4.7%	112%	101%
11:00-11:59	5.0%	112%	106%
12:00-12:59	5.2%	109%	104%
13:00-13:59	5.5%	102%	98%
14:00-14:59	6.3%	89%	88%
15:00-15:59	7.4%	74%	74%
16:00-16:59	9.4%	58%	57%
17:00-17:59	8.6%	63%	57%
18:00-18:59	4.7%	91%	83%
19:00-19:59	3.2%	106%	97%
20:00-20:59	2.7%	111%	85%
21:00-21:59	2.1%	131%	75%
22:00-22:59	1.4%	144%	69%
23:00-23:59	0.8%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	148	238	257
01:00-01:59	224	317	328
02:00-02:59	227	266	252
03:00-03:59	306	240	180
04:00-04:59	718	352	220
05:00-05:59	1,883	620	380
06:00-06:59	3,762	1,068	610
07:00-07:59	5,217	1,684	968
08:00-08:59	3,465	2,263	1,483
09:00-09:59	2,972	2,893	2,322
10:00-10:59	2,718	3,040	2,742
11:00-11:59	2,877	3,232	3,041
12:00-12:59	2,984	3,261	3,118
13:00-13:59	3,147	3,203	3,080
14:00-14:59	3,586	3,184	3,139
15:00-15:59	4,220	3,140	3,131
16:00-16:59	5,371	3,139	3,072
17:00-17:59	4,951	3,113	2,832
18:00-18:59	2,669	2,422	2,221
19:00-19:59	1,829	1,938	1,779
20:00-20:59	1,562	1,735	1,332
21:00-21:59	1,217	1,592	918
22:00-22:59	791	1,137	544
23:00-23:59	457	707	337
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	98,797	0	0	98,797
Total Volume	286,500	44,783	38,285	369,568
				27%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	10c
Target AADT	58,850

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440160
Trend ID	5 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	137	139	**139**			**223**			**240**
01:00-01:59	102	107	**209**			**296**			**306**
02:00-02:59	99	113	**212**			**248**			**235**
03:00-03:59	143	143	**286**			**224**			**168**
04:00-04:59	313	357	**670**			**328**			**206**
05:00-05:59	870	888	**1,758**			**579**			**355**
06:00-06:59	1,680	1,832	**3,512**			**997**			**569**
07:00-07:59	2,364	2,507	**4,870**			**1,572**			**903**
08:00-08:59	1,579	1,656	**3,235**			**2,113**			**1,384**
09:00-09:59	1,421	1,353	**2,774**			**2,701**			**2,167**
10:00-10:59	1,258	1,279	**2,537**			**2,838**			**2,559**
11:00-11:59	1,346	1,340	**2,686**			**3,017**			**2,838**
12:00-12:59	1,363	1,423	**2,786**			**3,044**			**2,911**
13:00-13:59	1,408	1,530	**2,938**			**2,990**			**2,875**
14:00-14:59	1,571	1,776	**3,347**			**2,972**			**2,930**
15:00-15:59	1,952	1,988	**3,940**			**2,931**			**2,922**
16:00-16:59	2,415	2,599	**5,014**			**2,930**			**2,868**
17:00-17:59	2,255	2,367	**4,622**			**2,906**			**2,644**
18:00-18:59	1,231	1,261	**2,491**			**2,261**			**2,073**
19:00-19:59	874	833	**1,707**			**1,809**			**1,660**
20:00-20:59	768	690	**1,458**			**1,620**			**1,244**
21:00-21:59	575	562	**1,136**			**1,486**			**857**
22:00-22:59	367	372	**739**			**1,062**			**508**
23:00-23:59	214	213	**427**			**660**			**315**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.5%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.6%	28%	16%
9.1%	32%	19%
6.0%	65%	43%
5.2%	97%	78%
4.7%	112%	101%
5.0%	112%	106%
5.2%	109%	104%
5.5%	102%	98%
6.3%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.6%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.7%	111%	85%
2.1%	131%	75%
1.4%	144%	69%
0.8%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	152	245	264
01:00-01:59	230	325	337
02:00-02:59	233	273	259
03:00-03:59	315	246	185
04:00-04:59	737	361	226
05:00-05:59	1,934	637	390
06:00-06:59	3,864	1,097	626
07:00-07:59	5,358	1,729	994
08:00-08:59	3,559	2,324	1,523
09:00-09:59	3,052	2,971	2,385
10:00-10:59	2,791	3,122	2,816
11:00-11:59	2,955	3,320	3,123
12:00-12:59	3,065	3,349	3,202
13:00-13:59	3,232	3,289	3,163
14:00-14:59	3,683	3,270	3,224
15:00-15:59	4,335	3,225	3,215
16:00-16:59	5,516	3,224	3,155
17:00-17:59	5,085	3,197	2,909
18:00-18:59	2,741	2,487	2,281
19:00-19:59	1,878	1,990	1,827
20:00-20:59	1,604	1,782	1,368
21:00-21:59	1,250	1,635	943
22:00-22:59	813	1,168	559
23:00-23:59	469	726	346
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	101,469	0	0	101,469
Total Volume	294,250	45,995	39,321	379,566
				27%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	10d
Target AADT	55,250

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440160
Trend ID	5 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	137	139	**139**			**223**			**240**
01:00-01:59	102	107	**209**			**296**			**306**
02:00-02:59	99	113	**212**			**248**			**235**
03:00-03:59	143	143	**286**			**224**			**168**
04:00-04:59	313	357	**670**			**328**			**206**
05:00-05:59	870	888	**1,758**			**579**			**355**
06:00-06:59	1,680	1,832	**3,512**			**997**			**569**
07:00-07:59	2,364	2,507	**4,870**			**1,572**			**903**
08:00-08:59	1,579	1,656	**3,235**			**2,113**			**1,384**
09:00-09:59	1,421	1,353	**2,774**			**2,701**			**2,167**
10:00-10:59	1,258	1,279	**2,537**			**2,838**			**2,559**
11:00-11:59	1,346	1,340	**2,686**			**3,017**			**2,838**
12:00-12:59	1,363	1,423	**2,786**			**3,044**			**2,911**
13:00-13:59	1,408	1,530	**2,938**			**2,990**			**2,875**
14:00-14:59	1,571	1,776	**3,347**			**2,972**			**2,930**
15:00-15:59	1,952	1,988	**3,940**			**2,931**			**2,922**
16:00-16:59	2,415	2,599	**5,014**			**2,930**			**2,868**
17:00-17:59	2,255	2,367	**4,622**			**2,906**			**2,644**
18:00-18:59	1,231	1,261	**2,491**			**2,261**			**2,073**
19:00-19:59	874	833	**1,707**			**1,809**			**1,660**
20:00-20:59	768	690	**1,458**			**1,620**			**1,244**
21:00-21:59	575	562	**1,136**			**1,486**			**857**
22:00-22:59	367	372	**739**			**1,062**			**508**
23:00-23:59	214	213	**427**			**660**			**315**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.5%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.6%	28%	16%
9.1%	32%	19%
6.0%	65%	43%
5.2%	97%	78%
4.7%	112%	101%
5.0%	112%	106%
5.2%	109%	104%
5.5%	102%	98%
6.3%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.6%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.7%	111%	85%
2.1%	131%	75%
1.4%	144%	69%
0.8%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	143	230	248
01:00-01:59	216	305	316
02:00-02:59	218	256	243
03:00-03:59	295	231	173
04:00-04:59	692	339	212
05:00-05:59	1,815	598	366
06:00-06:59	3,627	1,030	588
07:00-07:59	5,031	1,624	933
08:00-08:59	3,341	2,182	1,430
09:00-09:59	2,865	2,790	2,239
10:00-10:59	2,621	2,931	2,644
11:00-11:59	2,775	3,117	2,932
12:00-12:59	2,877	3,144	3,006
13:00-13:59	3,034	3,088	2,970
14:00-14:59	3,457	3,070	3,027
15:00-15:59	4,069	3,028	3,019
16:00-16:59	5,179	3,027	2,962
17:00-17:59	4,774	3,002	2,731
18:00-18:59	2,573	2,335	2,142
19:00-19:59	1,763	1,869	1,715
20:00-20:59	1,506	1,673	1,285
21:00-21:59	1,173	1,535	885
22:00-22:59	763	1,096	525
23:00-23:59	441	681	325
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	95,262	0	0	95,262
Total Volume	276,250	43,181	36,916	356,347
				27%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	11a
Target AADT	51,550

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	**289**			**464**			**500**
01:00-01:59	100	99	**198**			**280**			**290**
02:00-02:59	92	102	**193**			**226**			**215**
03:00-03:59	163	138	**300**			**235**			**176**
04:00-04:59	314	317	**631**			**309**			**194**
05:00-05:59	978	833	**1,811**			**596**			**365**
06:00-06:59	1,729	1,737	**3,465**			**984**			**562**
07:00-07:59	2,475	2,198	**4,672**			**1,508**			**867**
08:00-08:59	1,604	1,590	**3,194**			**2,086**			**1,367**
09:00-09:59	1,355	1,313	**2,668**			**2,597**			**2,085**
10:00-10:59	1,327	1,267	**2,593**			**2,901**			**2,616**
11:00-11:59	1,326	1,364	**2,689**			**3,021**			**2,841**
12:00-12:59	1,293	1,416	**2,708**			**2,959**			**2,830**
13:00-13:59	1,354	1,425	**2,779**			**2,828**			**2,719**
14:00-14:59	1,514	1,708	**3,222**			**2,860**			**2,821**
15:00-15:59	1,893	2,082	**3,975**			**2,957**			**2,948**
16:00-16:59	2,331	2,677	**5,008**			**2,927**			**2,864**
17:00-17:59	2,128	2,408	**4,536**			**2,852**			**2,594**
18:00-18:59	1,274	1,331	**2,605**			**2,364**			**2,168**
19:00-19:59	879	880	**1,759**			**1,863**			**1,710**
20:00-20:59	755	800	**1,555**			**1,727**			**1,326**
21:00-21:59	637	648	**1,285**			**1,680**			**969**
22:00-22:59	374	416	**790**			**1,135**			**543**
23:00-23:59	203	251	**454**			**702**			**335**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	279	448	483
01:00-01:59	191	271	280
02:00-02:59	186	219	207
03:00-03:59	290	227	170
04:00-04:59	609	298	187
05:00-05:59	1,749	576	353
06:00-06:59	3,347	950	542
07:00-07:59	4,512	1,456	837
08:00-08:59	3,084	2,015	1,320
09:00-09:59	2,577	2,509	2,013
10:00-10:59	2,504	2,801	2,527
11:00-11:59	2,597	2,917	2,744
12:00-12:59	2,616	2,858	2,733
13:00-13:59	2,684	2,731	2,627
14:00-14:59	3,111	2,763	2,724
15:00-15:59	3,839	2,856	2,848
16:00-16:59	4,837	2,827	2,767
17:00-17:59	4,381	2,754	2,506
18:00-18:59	2,516	2,283	2,094
19:00-19:59	1,698	1,800	1,652
20:00-20:59	1,501	1,668	1,281
21:00-21:59	1,241	1,623	936
22:00-22:59	763	1,096	525
23:00-23:59	438	678	324
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	68,650	0	0	68,650
Total Volume	257,750	40,624	34,678	333,052
				21%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	11b
Target AADT	54,800

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	**289**			**464**			**500**
01:00-01:59	100	99	**198**			**280**			**290**
02:00-02:59	92	102	**193**			**226**			**215**
03:00-03:59	163	138	**300**			**235**			**176**
04:00-04:59	314	317	**631**			**309**			**194**
05:00-05:59	978	833	**1,811**			**596**			**365**
06:00-06:59	1,729	1,737	**3,465**			**984**			**562**
07:00-07:59	2,475	2,198	**4,672**			**1,508**			**867**
08:00-08:59	1,604	1,590	**3,194**			**2,086**			**1,367**
09:00-09:59	1,355	1,313	**2,668**			**2,597**			**2,085**
10:00-10:59	1,327	1,267	**2,593**			**2,901**			**2,616**
11:00-11:59	1,326	1,364	**2,689**			**3,021**			**2,841**
12:00-12:59	1,293	1,416	**2,708**			**2,959**			**2,830**
13:00-13:59	1,354	1,425	**2,779**			**2,828**			**2,719**
14:00-14:59	1,514	1,708	**3,222**			**2,860**			**2,821**
15:00-15:59	1,893	2,082	**3,975**			**2,957**			**2,948**
16:00-16:59	2,331	2,677	**5,008**			**2,927**			**2,864**
17:00-17:59	2,128	2,408	**4,536**			**2,852**			**2,594**
18:00-18:59	1,274	1,331	**2,605**			**2,364**			**2,168**
19:00-19:59	879	880	**1,759**			**1,863**			**1,710**
20:00-20:59	755	800	**1,555**			**1,727**			**1,326**
21:00-21:59	637	648	**1,285**			**1,680**			**969**
22:00-22:59	374	416	**790**			**1,135**			**543**
23:00-23:59	203	251	**454**			**702**			**335**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	296	476	513
01:00-01:59	203	288	298
02:00-02:59	198	232	220
03:00-03:59	308	241	181
04:00-04:59	647	317	199
05:00-05:59	1,859	612	375
06:00-06:59	3,558	1,010	577
07:00-07:59	4,797	1,548	890
08:00-08:59	3,279	2,142	1,403
09:00-09:59	2,739	2,667	2,140
10:00-10:59	2,662	2,978	2,686
11:00-11:59	2,761	3,101	2,917
12:00-12:59	2,780	3,038	2,905
13:00-13:59	2,853	2,904	2,792
14:00-14:59	3,308	2,937	2,896
15:00-15:59	4,081	3,037	3,027
16:00-16:59	5,142	3,005	2,941
17:00-17:59	4,657	2,928	2,664
18:00-18:59	2,674	2,427	2,226
19:00-19:59	1,806	1,913	1,756
20:00-20:59	1,596	1,773	1,361
21:00-21:59	1,319	1,725	995
22:00-22:59	811	1,165	558
23:00-23:59	466	721	344
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	93,383	0	0	93,383
Total Volume	274,000	43,186	36,864	354,050
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	11c
Target AADT	57,900

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	**289**			**464**			**500**
01:00-01:59	100	99	**198**			**280**			**290**
02:00-02:59	92	102	**193**			**226**			**215**
03:00-03:59	163	138	**300**			**235**			**176**
04:00-04:59	314	317	**631**			**309**			**194**
05:00-05:59	978	833	**1,811**			**596**			**365**
06:00-06:59	1,729	1,737	**3,465**			**984**			**562**
07:00-07:59	2,475	2,198	**4,672**			**1,508**			**867**
08:00-08:59	1,604	1,590	**3,194**			**2,086**			**1,367**
09:00-09:59	1,355	1,313	**2,668**			**2,597**			**2,085**
10:00-10:59	1,327	1,267	**2,593**			**2,901**			**2,616**
11:00-11:59	1,326	1,364	**2,689**			**3,021**			**2,841**
12:00-12:59	1,293	1,416	**2,708**			**2,959**			**2,830**
13:00-13:59	1,354	1,425	**2,779**			**2,828**			**2,719**
14:00-14:59	1,514	1,708	**3,222**			**2,860**			**2,821**
15:00-15:59	1,893	2,082	**3,975**			**2,957**			**2,948**
16:00-16:59	2,331	2,677	**5,008**			**2,927**			**2,864**
17:00-17:59	2,128	2,408	**4,536**			**2,852**			**2,594**
18:00-18:59	1,274	1,331	**2,605**			**2,364**			**2,168**
19:00-19:59	879	880	**1,759**			**1,863**			**1,710**
20:00-20:59	755	800	**1,555**			**1,727**			**1,326**
21:00-21:59	637	648	**1,285**			**1,680**			**969**
22:00-22:59	374	416	**790**			**1,135**			**543**
23:00-23:59	203	251	**454**			**702**			**335**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	313	503	542
01:00-01:59	215	304	315
02:00-02:59	209	246	233
03:00-03:59	325	255	191
04:00-04:59	684	335	210
05:00-05:59	1,964	647	396
06:00-06:59	3,759	1,068	609
07:00-07:59	5,068	1,636	940
08:00-08:59	3,464	2,263	1,483
09:00-09:59	2,894	2,818	2,261
10:00-10:59	2,813	3,147	2,838
11:00-11:59	2,917	3,277	3,082
12:00-12:59	2,938	3,210	3,070
13:00-13:59	3,014	3,068	2,950
14:00-14:59	3,495	3,103	3,060
15:00-15:59	4,312	3,208	3,198
16:00-16:59	5,433	3,175	3,107
17:00-17:59	4,920	3,094	2,814
18:00-18:59	2,825	2,564	2,352
19:00-19:59	1,908	2,022	1,855
20:00-20:59	1,686	1,873	1,438
21:00-21:59	1,393	1,823	1,052
22:00-22:59	856	1,231	589
23:00-23:59	493	762	363
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	98,665	0	0	98,665
Total Volume	289,500	45,629	38,950	374,078
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	11d
Target AADT	57,750

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	**289**			**464**			**500**
01:00-01:59	100	99	**198**			**280**			**290**
02:00-02:59	92	102	**193**			**226**			**215**
03:00-03:59	163	138	**300**			**235**			**176**
04:00-04:59	314	317	**631**			**309**			**194**
05:00-05:59	978	833	**1,811**			**596**			**365**
06:00-06:59	1,729	1,737	**3,465**			**984**			**562**
07:00-07:59	2,475	2,198	**4,672**			**1,508**			**867**
08:00-08:59	1,604	1,590	**3,194**			**2,086**			**1,367**
09:00-09:59	1,355	1,313	**2,668**			**2,597**			**2,085**
10:00-10:59	1,327	1,267	**2,593**			**2,901**			**2,616**
11:00-11:59	1,326	1,364	**2,689**			**3,021**			**2,841**
12:00-12:59	1,293	1,416	**2,708**			**2,959**			**2,830**
13:00-13:59	1,354	1,425	**2,779**			**2,828**			**2,719**
14:00-14:59	1,514	1,708	**3,222**			**2,860**			**2,821**
15:00-15:59	1,893	2,082	**3,975**			**2,957**			**2,948**
16:00-16:59	2,331	2,677	**5,008**			**2,927**			**2,864**
17:00-17:59	2,128	2,408	**4,536**			**2,852**			**2,594**
18:00-18:59	1,274	1,331	**2,605**			**2,364**			**2,168**
19:00-19:59	879	880	**1,759**			**1,863**			**1,710**
20:00-20:59	755	800	**1,555**			**1,727**			**1,326**
21:00-21:59	637	648	**1,285**			**1,680**			**969**
22:00-22:59	374	416	**790**			**1,135**			**543**
23:00-23:59	203	251	**454**			**702**			**335**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	312	502	541
01:00-01:59	214	303	314
02:00-02:59	209	245	232
03:00-03:59	325	254	190
04:00-04:59	682	334	209
05:00-05:59	1,959	645	395
06:00-06:59	3,749	1,065	608
07:00-07:59	5,055	1,632	938
08:00-08:59	3,455	2,257	1,479
09:00-09:59	2,887	2,811	2,255
10:00-10:59	2,806	3,138	2,830
11:00-11:59	2,910	3,268	3,074
12:00-12:59	2,930	3,202	3,062
13:00-13:59	3,006	3,060	2,942
14:00-14:59	3,486	3,095	3,052
15:00-15:59	4,300	3,200	3,190
16:00-16:59	5,419	3,167	3,099
17:00-17:59	4,907	3,086	2,807
18:00-18:59	2,818	2,558	2,346
19:00-19:59	1,903	2,016	1,851
20:00-20:59	1,682	1,869	1,435
21:00-21:59	1,390	1,818	1,049
22:00-22:59	854	1,228	588
23:00-23:59	491	760	363
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	98,410	0	0	98,410
Total Volume	288,750	45,510	38,849	373,109
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	11e
Target AADT	57,900

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	**289**			**464**			**500**
01:00-01:59	100	99	**198**			**280**			**290**
02:00-02:59	92	102	**193**			**226**			**215**
03:00-03:59	163	138	**300**			**235**			**176**
04:00-04:59	314	317	**631**			**309**			**194**
05:00-05:59	978	833	**1,811**			**596**			**365**
06:00-06:59	1,729	1,737	**3,465**			**984**			**562**
07:00-07:59	2,475	2,198	**4,672**			**1,508**			**867**
08:00-08:59	1,604	1,590	**3,194**			**2,086**			**1,367**
09:00-09:59	1,355	1,313	**2,668**			**2,597**			**2,085**
10:00-10:59	1,327	1,267	**2,593**			**2,901**			**2,616**
11:00-11:59	1,326	1,364	**2,689**			**3,021**			**2,841**
12:00-12:59	1,293	1,416	**2,708**			**2,959**			**2,830**
13:00-13:59	1,354	1,425	**2,779**			**2,828**			**2,719**
14:00-14:59	1,514	1,708	**3,222**			**2,860**			**2,821**
15:00-15:59	1,893	2,082	**3,975**			**2,957**			**2,948**
16:00-16:59	2,331	2,677	**5,008**			**2,927**			**2,864**
17:00-17:59	2,128	2,408	**4,536**			**2,852**			**2,594**
18:00-18:59	1,274	1,331	**2,605**			**2,364**			**2,168**
19:00-19:59	879	880	**1,759**			**1,863**			**1,710**
20:00-20:59	755	800	**1,555**			**1,727**			**1,326**
21:00-21:59	637	648	**1,285**			**1,680**			**969**
22:00-22:59	374	416	**790**			**1,135**			**543**
23:00-23:59	203	251	**454**			**702**			**335**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	313	503	542
01:00-01:59	215	304	315
02:00-02:59	209	246	233
03:00-03:59	325	255	191
04:00-04:59	684	335	210
05:00-05:59	1,964	647	396
06:00-06:59	3,759	1,068	609
07:00-07:59	5,068	1,636	940
08:00-08:59	3,464	2,263	1,483
09:00-09:59	2,894	2,818	2,261
10:00-10:59	2,813	3,147	2,838
11:00-11:59	2,917	3,277	3,082
12:00-12:59	2,938	3,210	3,070
13:00-13:59	3,014	3,068	2,950
14:00-14:59	3,495	3,103	3,060
15:00-15:59	4,312	3,208	3,198
16:00-16:59	5,433	3,175	3,107
17:00-17:59	4,920	3,094	2,814
18:00-18:59	2,825	2,564	2,352
19:00-19:59	1,908	2,022	1,855
20:00-20:59	1,686	1,873	1,438
21:00-21:59	1,393	1,823	1,052
22:00-22:59	856	1,231	589
23:00-23:59	493	762	363
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	98,665	0	0	98,665
Total Volume	289,500	45,629	38,950	374,078
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	11f
Target AADT	56,150

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	**289**			**464**			**500**
01:00-01:59	100	99	**198**			**280**			**290**
02:00-02:59	92	102	**193**			**226**			**215**
03:00-03:59	163	138	**300**			**235**			**176**
04:00-04:59	314	317	**631**			**309**			**194**
05:00-05:59	978	833	**1,811**			**596**			**365**
06:00-06:59	1,729	1,737	**3,465**			**984**			**562**
07:00-07:59	2,475	2,198	**4,672**			**1,508**			**867**
08:00-08:59	1,604	1,590	**3,194**			**2,086**			**1,367**
09:00-09:59	1,355	1,313	**2,668**			**2,597**			**2,085**
10:00-10:59	1,327	1,267	**2,593**			**2,901**			**2,616**
11:00-11:59	1,326	1,364	**2,689**			**3,021**			**2,841**
12:00-12:59	1,293	1,416	**2,708**			**2,959**			**2,830**
13:00-13:59	1,354	1,425	**2,779**			**2,828**			**2,719**
14:00-14:59	1,514	1,708	**3,222**			**2,860**			**2,821**
15:00-15:59	1,893	2,082	**3,975**			**2,957**			**2,948**
16:00-16:59	2,331	2,677	**5,008**			**2,927**			**2,864**
17:00-17:59	2,128	2,408	**4,536**			**2,852**			**2,594**
18:00-18:59	1,274	1,331	**2,605**			**2,364**			**2,168**
19:00-19:59	879	880	**1,759**			**1,863**			**1,710**
20:00-20:59	755	800	**1,555**			**1,727**			**1,326**
21:00-21:59	637	648	**1,285**			**1,680**			**969**
22:00-22:59	374	416	**790**			**1,135**			**543**
23:00-23:59	203	251	**454**			**702**			**335**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	304	488	526
01:00-01:59	208	295	305
02:00-02:59	203	238	226
03:00-03:59	316	247	185
04:00-04:59	663	325	204
05:00-05:59	1,905	627	384
06:00-06:59	3,645	1,035	591
07:00-07:59	4,915	1,586	912
08:00-08:59	3,360	2,194	1,438
09:00-09:59	2,807	2,733	2,193
10:00-10:59	2,728	3,051	2,752
11:00-11:59	2,829	3,178	2,989
12:00-12:59	2,849	3,113	2,977
13:00-13:59	2,923	2,975	2,861
14:00-14:59	3,389	3,009	2,967
15:00-15:59	4,181	3,111	3,102
16:00-16:59	5,269	3,079	3,013
17:00-17:59	4,772	3,000	2,729
18:00-18:59	2,740	2,487	2,281
19:00-19:59	1,850	1,960	1,799
20:00-20:59	1,635	1,817	1,395
21:00-21:59	1,351	1,768	1,020
22:00-22:59	831	1,194	571
23:00-23:59	478	739	353
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	95,683	0	0	95,683
Total Volume	280,750	44,249	37,772	362,772
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 - 1.5 MI NE OF OUTAGAMIE COUNTY LINE - DE PERE
Site #	050001
Trend ID	6 - ATR

Segment	12a
Target AADT	54,850

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	123	156	**279**	201	247	**448**	217	266	**483**
01:00-01:59	101	113	**214**	135	168	**303**	141	173	**314**
02:00-02:59	113	120	**233**	122	151	**273**	117	142	**259**
03:00-03:59	156	169	**326**	111	144	**255**	83	108	**191**
04:00-04:59	367	366	**733**	176	183	**359**	98	127	**225**
05:00-05:59	888	956	**1,844**	288	319	**607**	187	185	**372**
06:00-06:59	1,815	1,752	**3,567**	505	508	**1,013**	302	276	**578**
07:00-07:59	2,643	2,253	**4,896**	780	800	**1,580**	480	428	**908**
08:00-08:59	1,737	1,551	**3,287**	1,088	1,059	**2,147**	774	633	**1,407**
09:00-09:59	1,439	1,339	**2,777**	1,402	1,302	**2,704**	1,189	981	**2,170**
10:00-10:59	1,406	1,354	**2,761**	1,601	1,487	**3,088**	1,409	1,376	**2,785**
11:00-11:59	1,455	1,457	**2,912**	1,710	1,561	**3,271**	1,452	1,625	**3,077**
12:00-12:59	1,497	1,538	**3,035**	1,712	1,604	**3,316**	1,487	1,684	**3,171**
13:00-13:59	1,551	1,600	**3,151**	1,634	1,573	**3,207**	1,448	1,636	**3,084**
14:00-14:59	1,734	1,833	**3,567**	1,614	1,553	**3,167**	1,400	1,723	**3,123**
15:00-15:59	2,101	2,196	**4,298**	1,630	1,568	**3,198**	1,396	1,792	**3,188**
16:00-16:59	2,551	2,818	**5,369**	1,626	1,512	**3,138**	1,376	1,695	**3,071**
17:00-17:59	2,295	2,340	**4,635**	1,535	1,379	**2,914**	1,219	1,432	**2,651**
18:00-18:59	1,381	1,292	**2,673**	1,262	1,164	**2,426**	1,029	1,196	**2,225**
19:00-19:59	904	874	**1,779**	957	928	**1,885**	786	944	**1,730**
20:00-20:59	742	738	**1,481**	815	830	**1,645**	593	670	**1,263**
21:00-21:59	592	602	**1,194**	712	850	**1,562**	430	471	**901**
22:00-22:59	389	454	**843**	520	692	**1,212**	262	318	**580**
23:00-23:59	242	281	**523**	334	475	**809**	150	236	**386**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.3%	28%	16%
8.7%	32%	19%
5.8%	65%	43%
4.9%	97%	78%
4.9%	112%	101%
5.2%	112%	106%
5.4%	109%	104%
5.6%	102%	98%
6.3%	89%	88%
7.6%	74%	74%
9.5%	58%	57%
8.2%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.6%	111%	85%
2.1%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

High Volume Hour Calculations

D

Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	271	436	470
01:00-01:59	208	295	306
02:00-02:59	227	266	252
03:00-03:59	317	248	186
04:00-04:59	713	349	219
05:00-05:59	1,794	591	362
06:00-06:59	3,470	986	562
07:00-07:59	4,763	1,537	883
08:00-08:59	3,198	2,089	1,369
09:00-09:59	2,702	2,631	2,111
10:00-10:59	2,686	3,004	2,710
11:00-11:59	2,833	3,183	2,994
12:00-12:59	2,953	3,226	3,085
13:00-13:59	3,066	3,120	3,001
14:00-14:59	3,470	3,081	3,039
15:00-15:59	4,182	3,111	3,102
16:00-16:59	5,224	3,053	2,988
17:00-17:59	4,509	2,835	2,579
18:00-18:59	2,601	2,360	2,165
19:00-19:59	1,731	1,834	1,683
20:00-20:59	1,441	1,600	1,229
21:00-21:59	1,162	1,520	877
22:00-22:59	820	1,179	564
23:00-23:59	509	787	376
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	93,389	0	0	93,389
Total Volume	274,250	43,322	37,110	354,682
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

Segment	12b
Target AADT	57,150

2018 Annual ATR Data	
Location	USH 41 - 1.5 MI NE OF OUTAGAMIE COUNTY LINE - DE PERE
Site #	050001
Trend ID	6 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	123	156	**279**	201	247	**448**	217	266	**483**
01:00-01:59	101	113	**214**	135	168	**303**	141	173	**314**
02:00-02:59	113	120	**233**	122	151	**273**	117	142	**259**
03:00-03:59	156	169	**326**	111	144	**255**	83	108	**191**
04:00-04:59	367	366	**733**	176	183	**359**	98	127	**225**
05:00-05:59	888	956	**1,844**	288	319	**607**	187	185	**372**
06:00-06:59	1,815	1,752	**3,567**	505	508	**1,013**	302	276	**578**
07:00-07:59	2,643	2,253	**4,896**	780	800	**1,580**	480	428	**908**
08:00-08:59	1,737	1,551	**3,287**	1,088	1,059	**2,147**	774	633	**1,407**
09:00-09:59	1,439	1,339	**2,777**	1,402	1,302	**2,704**	1,189	981	**2,170**
10:00-10:59	1,406	1,354	**2,761**	1,601	1,487	**3,088**	1,409	1,376	**2,785**
11:00-11:59	1,455	1,457	**2,912**	1,710	1,561	**3,271**	1,452	1,625	**3,077**
12:00-12:59	1,497	1,538	**3,035**	1,712	1,604	**3,316**	1,487	1,684	**3,171**
13:00-13:59	1,551	1,600	**3,151**	1,634	1,573	**3,207**	1,448	1,636	**3,084**
14:00-14:59	1,734	1,833	**3,567**	1,614	1,553	**3,167**	1,400	1,723	**3,123**
15:00-15:59	2,101	2,196	**4,298**	1,630	1,568	**3,198**	1,396	1,792	**3,188**
16:00-16:59	2,551	2,818	**5,369**	1,626	1,512	**3,138**	1,376	1,695	**3,071**
17:00-17:59	2,295	2,340	**4,635**	1,535	1,379	**2,914**	1,219	1,432	**2,651**
18:00-18:59	1,381	1,292	**2,673**	1,262	1,164	**2,426**	1,029	1,196	**2,225**
19:00-19:59	904	874	**1,779**	957	928	**1,885**	786	944	**1,730**
20:00-20:59	742	738	**1,481**	815	830	**1,645**	593	670	**1,263**
21:00-21:59	592	602	**1,194**	712	850	**1,562**	430	471	**901**
22:00-22:59	389	454	**843**	520	692	**1,212**	262	318	**580**
23:00-23:59	242	281	**523**	334	475	**809**	150	236	**386**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.3%	28%	16%
8.7%	32%	19%
5.8%	65%	43%
4.9%	97%	78%
4.9%	112%	101%
5.2%	112%	106%
5.4%	109%	104%
5.6%	102%	98%
6.3%	89%	88%
7.6%	74%	74%
9.5%	58%	57%
8.2%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.6%	111%	85%
2.1%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	283	454	490
01:00-01:59	217	307	318
02:00-02:59	236	277	263
03:00-03:59	330	259	194
04:00-04:59	743	364	228
05:00-05:59	1,869	615	377
06:00-06:59	3,616	1,027	586
07:00-07:59	4,963	1,602	920
08:00-08:59	3,332	2,177	1,426
09:00-09:59	2,816	2,741	2,200
10:00-10:59	2,799	3,130	2,823
11:00-11:59	2,952	3,316	3,119
12:00-12:59	3,077	3,362	3,215
13:00-13:59	3,194	3,251	3,126
14:00-14:59	3,616	3,211	3,166
15:00-15:59	4,357	3,242	3,232
16:00-16:59	5,443	3,181	3,113
17:00-17:59	4,698	2,954	2,687
18:00-18:59	2,710	2,459	2,256
19:00-19:59	1,803	1,911	1,754
20:00-20:59	1,501	1,668	1,280
21:00-21:59	1,210	1,583	913
22:00-22:59	855	1,229	588
23:00-23:59	530	820	391
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	97,305	0	0	97,305
Total Volume	285,750	45,139	38,666	369,555
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 - 1.5 MI NE OF OUTAGAMIE COUNTY LINE - DE PERE
Site #	050001
Trend ID	6 - ATR

Segment	12c
Target AADT	59,550

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	123	156	**279**	201	247	**448**	217	266	**483**
01:00-01:59	101	113	**214**	135	168	**303**	141	173	**314**
02:00-02:59	113	120	**233**	122	151	**273**	117	142	**259**
03:00-03:59	156	169	**326**	111	144	**255**	83	108	**191**
04:00-04:59	367	366	**733**	176	183	**359**	98	127	**225**
05:00-05:59	888	956	**1,844**	288	319	**607**	187	185	**372**
06:00-06:59	1,815	1,752	**3,567**	505	508	**1,013**	302	276	**578**
07:00-07:59	2,643	2,253	**4,896**	780	800	**1,580**	480	428	**908**
08:00-08:59	1,737	1,551	**3,287**	1,088	1,059	**2,147**	774	633	**1,407**
09:00-09:59	1,439	1,339	**2,777**	1,402	1,302	**2,704**	1,189	981	**2,170**
10:00-10:59	1,406	1,354	**2,761**	1,601	1,487	**3,088**	1,409	1,376	**2,785**
11:00-11:59	1,455	1,457	**2,912**	1,710	1,561	**3,271**	1,452	1,625	**3,077**
12:00-12:59	1,497	1,538	**3,035**	1,712	1,604	**3,316**	1,487	1,684	**3,171**
13:00-13:59	1,551	1,600	**3,151**	1,634	1,573	**3,207**	1,448	1,636	**3,084**
14:00-14:59	1,734	1,833	**3,567**	1,614	1,553	**3,167**	1,400	1,723	**3,123**
15:00-15:59	2,101	2,196	**4,298**	1,630	1,568	**3,198**	1,396	1,792	**3,188**
16:00-16:59	2,551	2,818	**5,369**	1,626	1,512	**3,138**	1,376	1,695	**3,071**
17:00-17:59	2,295	2,340	**4,635**	1,535	1,379	**2,914**	1,219	1,432	**2,651**
18:00-18:59	1,381	1,292	**2,673**	1,262	1,164	**2,426**	1,029	1,196	**2,225**
19:00-19:59	904	874	**1,779**	957	928	**1,885**	786	944	**1,730**
20:00-20:59	742	738	**1,481**	815	830	**1,645**	593	670	**1,263**
21:00-21:59	592	602	**1,194**	712	850	**1,562**	430	471	**901**
22:00-22:59	389	454	**843**	520	692	**1,212**	262	318	**580**
23:00-23:59	242	281	**523**	334	475	**809**	150	236	**386**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.3%	28%	16%
8.7%	32%	19%
5.8%	65%	43%
4.9%	97%	78%
4.9%	112%	101%
5.2%	112%	106%
5.4%	109%	104%
5.6%	102%	98%
6.3%	89%	88%
7.6%	74%	74%
9.5%	58%	57%
8.2%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.6%	111%	85%
2.1%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	295	473	510
01:00-01:59	226	320	332
02:00-02:59	246	288	274
03:00-03:59	344	269	202
04:00-04:59	774	379	238
05:00-05:59	1,948	641	393
06:00-06:59	3,768	1,070	611
07:00-07:59	5,171	1,669	959
08:00-08:59	3,472	2,268	1,486
09:00-09:59	2,934	2,856	2,292
10:00-10:59	2,916	3,262	2,942
11:00-11:59	3,076	3,455	3,250
12:00-12:59	3,206	3,503	3,350
13:00-13:59	3,328	3,388	3,258
14:00-14:59	3,768	3,345	3,299
15:00-15:59	4,540	3,378	3,368
16:00-16:59	5,672	3,315	3,244
17:00-17:59	4,896	3,078	2,800
18:00-18:59	2,824	2,563	2,350
19:00-19:59	1,879	1,991	1,827
20:00-20:59	1,564	1,738	1,334
21:00-21:59	1,261	1,650	952
22:00-22:59	891	1,280	613
23:00-23:59	552	855	408
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	101,392	0	0	101,392
Total Volume	297,750	47,035	40,290	385,075
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 - 1.5 MI NE OF OUTAGAMIE COUNTY LINE - DE PERE
Site #	050001
Trend ID	6 - ATR

Segment	12d
Target AADT	57,200

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	123	156	**279**	201	247	**448**	217	266	**483**
01:00-01:59	101	113	**214**	135	168	**303**	141	173	**314**
02:00-02:59	113	120	**233**	122	151	**273**	117	142	**259**
03:00-03:59	156	169	**326**	111	144	**255**	83	108	**191**
04:00-04:59	367	366	**733**	176	183	**359**	98	127	**225**
05:00-05:59	888	956	**1,844**	288	319	**607**	187	185	**372**
06:00-06:59	1,815	1,752	**3,567**	505	508	**1,013**	302	276	**578**
07:00-07:59	2,643	2,253	**4,896**	780	800	**1,580**	480	428	**908**
08:00-08:59	1,737	1,551	**3,287**	1,088	1,059	**2,147**	774	633	**1,407**
09:00-09:59	1,439	1,339	**2,777**	1,402	1,302	**2,704**	1,189	981	**2,170**
10:00-10:59	1,406	1,354	**2,761**	1,601	1,487	**3,088**	1,409	1,376	**2,785**
11:00-11:59	1,455	1,457	**2,912**	1,710	1,561	**3,271**	1,452	1,625	**3,077**
12:00-12:59	1,497	1,538	**3,035**	1,712	1,604	**3,316**	1,487	1,684	**3,171**
13:00-13:59	1,551	1,600	**3,151**	1,634	1,573	**3,207**	1,448	1,636	**3,084**
14:00-14:59	1,734	1,833	**3,567**	1,614	1,553	**3,167**	1,400	1,723	**3,123**
15:00-15:59	2,101	2,196	**4,298**	1,630	1,568	**3,198**	1,396	1,792	**3,188**
16:00-16:59	2,551	2,818	**5,369**	1,626	1,512	**3,138**	1,376	1,695	**3,071**
17:00-17:59	2,295	2,340	**4,635**	1,535	1,379	**2,914**	1,219	1,432	**2,651**
18:00-18:59	1,381	1,292	**2,673**	1,262	1,164	**2,426**	1,029	1,196	**2,225**
19:00-19:59	904	874	**1,779**	957	928	**1,885**	786	944	**1,730**
20:00-20:59	742	738	**1,481**	815	830	**1,645**	593	670	**1,263**
21:00-21:59	592	602	**1,194**	712	850	**1,562**	430	471	**901**
22:00-22:59	389	454	**843**	520	692	**1,212**	262	318	**580**
23:00-23:59	242	281	**523**	334	475	**809**	150	236	**386**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.3%	28%	16%
8.7%	32%	19%
5.8%	65%	43%
4.9%	97%	78%
4.9%	112%	101%
5.2%	112%	106%
5.4%	109%	104%
5.6%	102%	98%
6.3%	89%	88%
7.6%	74%	74%
9.5%	58%	57%
8.2%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.6%	111%	85%
2.1%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	283	455	490
01:00-01:59	217	307	319
02:00-02:59	236	277	263
03:00-03:59	330	259	194
04:00-04:59	744	364	228
05:00-05:59	1,871	616	377
06:00-06:59	3,619	1,028	586
07:00-07:59	4,967	1,603	921
08:00-08:59	3,335	2,178	1,428
09:00-09:59	2,818	2,744	2,202
10:00-10:59	2,801	3,133	2,826
11:00-11:59	2,955	3,319	3,122
12:00-12:59	3,079	3,365	3,217
13:00-13:59	3,197	3,254	3,129
14:00-14:59	3,619	3,213	3,169
15:00-15:59	4,361	3,245	3,235
16:00-16:59	5,448	3,184	3,116
17:00-17:59	4,702	2,957	2,690
18:00-18:59	2,712	2,461	2,258
19:00-19:59	1,805	1,913	1,755
20:00-20:59	1,502	1,669	1,281
21:00-21:59	1,211	1,585	914
22:00-22:59	856	1,230	588
23:00-23:59	531	821	392
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	97,390	0	0	97,390
Total Volume	286,000	45,178	38,700	369,878
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 SOUTH OF CTH F
Site #	050109
Trend ID	7 - ATR

Segment	13a
Target AADT	55,400

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	135	150	**285**	225	246	**471**	254	272	**526**
01:00-01:59	109	112	**221**	147	171	**318**	156	178	**334**
02:00-02:59	116	124	**240**	130	156	**286**	126	146	**272**
03:00-03:59	158	182	**340**	117	149	**266**	89	110	**199**
04:00-04:59	378	401	**779**	188	205	**393**	106	139	**245**
05:00-05:59	936	1,024	**1,960**	303	334	**637**	195	192	**387**
06:00-06:59	1,882	1,829	**3,712**	518	533	**1,051**	306	297	**603**
07:00-07:59	2,916	2,216	**5,133**	822	833	**1,655**	497	448	**945**
08:00-08:59	1,950	1,546	**3,496**	1,149	1,101	**2,250**	769	672	**1,441**
09:00-09:59	1,564	1,393	**2,956**	1,487	1,362	**2,849**	1,222	1,055	**2,277**
10:00-10:59	1,515	1,427	**2,942**	1,696	1,559	**3,255**	1,468	1,461	**2,929**
11:00-11:59	1,556	1,538	**3,094**	1,803	1,639	**3,442**	1,562	1,714	**3,276**
12:00-12:59	1,602	1,629	**3,231**	1,801	1,696	**3,497**	1,568	1,775	**3,343**
13:00-13:59	1,654	1,702	**3,356**	1,722	1,663	**3,385**	1,523	1,718	**3,241**
14:00-14:59	1,821	1,978	**3,799**	1,693	1,663	**3,356**	1,477	1,801	**3,278**
15:00-15:59	2,174	2,382	**4,556**	1,722	1,664	**3,386**	1,464	1,853	**3,317**
16:00-16:59	2,601	3,031	**5,632**	1,705	1,603	**3,308**	1,446	1,745	**3,191**
17:00-17:59	2,430	2,402	**4,832**	1,622	1,457	**3,079**	1,297	1,454	**2,751**
18:00-18:59	1,519	1,365	**2,884**	1,359	1,210	**2,569**	1,091	1,251	**2,342**
19:00-19:59	979	942	**1,921**	1,023	987	**2,010**	837	991	**1,828**
20:00-20:59	783	797	**1,581**	854	887	**1,741**	630	683	**1,313**
21:00-21:59	628	642	**1,270**	749	900	**1,649**	455	482	**937**
22:00-22:59	418	465	**882**	561	714	**1,275**	283	332	**615**
23:00-23:59	259	280	**539**	368	474	**842**	161	237	**398**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	165%	185%
0.4%	144%	151%
0.4%	119%	113%
0.6%	78%	58%
1.3%	50%	31%
3.3%	32%	20%
6.2%	28%	16%
8.6%	32%	18%
5.9%	64%	41%
5.0%	96%	77%
4.9%	111%	100%
5.2%	111%	106%
5.4%	108%	103%
5.6%	101%	97%
6.4%	88%	86%
7.6%	74%	73%
9.4%	59%	57%
8.1%	64%	57%
4.8%	89%	81%
3.2%	105%	95%
2.7%	110%	83%
2.1%	130%	74%
1.5%	144%	70%
0.9%	156%	74%

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	264	438	489
01:00-01:59	205	295	310
02:00-02:59	223	266	253
03:00-03:59	316	247	185
04:00-04:59	724	365	228
05:00-05:59	1,821	592	359
06:00-06:59	3,448	976	560
07:00-07:59	4,768	1,537	878
08:00-08:59	3,247	2,090	1,339
09:00-09:59	2,746	2,646	2,115
10:00-10:59	2,732	3,024	2,721
11:00-11:59	2,874	3,197	3,043
12:00-12:59	3,001	3,248	3,105
13:00-13:59	3,117	3,144	3,011
14:00-14:59	3,529	3,117	3,045
15:00-15:59	4,232	3,145	3,081
16:00-16:59	5,232	3,073	2,964
17:00-17:59	4,489	2,860	2,555
18:00-18:59	2,679	2,386	2,175
19:00-19:59	1,785	1,867	1,698
20:00-20:59	1,468	1,617	1,220
21:00-21:59	1,180	1,532	870
22:00-22:59	820	1,184	571
23:00-23:59	500	782	370
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	93,601	0	0	93,601
Total Volume	277,000	43,630	37,145	357,775
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 SOUTH OF CTH F
Site #	050109
Trend ID	7 - ATR

Segment	13b
Target AADT	58,600

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	135	150	**285**	225	246	**471**	254	272	**526**
01:00-01:59	109	112	**221**	147	171	**318**	156	178	**334**
02:00-02:59	116	124	**240**	130	156	**286**	126	146	**272**
03:00-03:59	158	182	**340**	117	149	**266**	89	110	**199**
04:00-04:59	378	401	**779**	188	205	**393**	106	139	**245**
05:00-05:59	936	1,024	**1,960**	303	334	**637**	195	192	**387**
06:00-06:59	1,882	1,829	**3,712**	518	533	**1,051**	306	297	**603**
07:00-07:59	2,916	2,216	**5,133**	822	833	**1,655**	497	448	**945**
08:00-08:59	1,950	1,546	**3,496**	1,149	1,101	**2,250**	769	672	**1,441**
09:00-09:59	1,564	1,393	**2,956**	1,487	1,362	**2,849**	1,222	1,055	**2,277**
10:00-10:59	1,515	1,427	**2,942**	1,696	1,559	**3,255**	1,468	1,461	**2,929**
11:00-11:59	1,556	1,538	**3,094**	1,803	1,639	**3,442**	1,562	1,714	**3,276**
12:00-12:59	1,602	1,629	**3,231**	1,801	1,696	**3,497**	1,568	1,775	**3,343**
13:00-13:59	1,654	1,702	**3,356**	1,722	1,663	**3,385**	1,523	1,718	**3,241**
14:00-14:59	1,821	1,978	**3,799**	1,693	1,663	**3,356**	1,477	1,801	**3,278**
15:00-15:59	2,174	2,382	**4,556**	1,722	1,664	**3,386**	1,464	1,853	**3,317**
16:00-16:59	2,601	3,031	**5,632**	1,705	1,603	**3,308**	1,446	1,745	**3,191**
17:00-17:59	2,430	2,402	**4,832**	1,622	1,457	**3,079**	1,297	1,454	**2,751**
18:00-18:59	1,519	1,365	**2,884**	1,359	1,210	**2,569**	1,091	1,251	**2,342**
19:00-19:59	979	942	**1,921**	1,023	987	**2,010**	837	991	**1,828**
20:00-20:59	783	797	**1,581**	854	887	**1,741**	630	683	**1,313**
21:00-21:59	628	642	**1,270**	749	900	**1,649**	455	482	**937**
22:00-22:59	418	465	**882**	561	714	**1,275**	283	332	**615**
23:00-23:59	259	280	**539**	368	474	**842**	161	237	**398**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	165%	185%
0.4%	144%	151%
0.4%	119%	113%
0.6%	78%	58%
1.3%	50%	31%
3.3%	32%	20%
6.2%	28%	16%
8.6%	32%	18%
5.9%	64%	41%
5.0%	96%	77%
4.9%	111%	100%
5.2%	111%	106%
5.4%	108%	103%
5.6%	101%	97%
6.4%	88%	86%
7.6%	74%	73%
9.4%	59%	57%
8.1%	64%	57%
4.8%	89%	81%
3.2%	105%	95%
2.7%	110%	83%
2.1%	130%	74%
1.5%	144%	70%
0.9%	156%	74%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	280	463	517
01:00-01:59	217	312	328
02:00-02:59	236	281	267
03:00-03:59	334	261	196
04:00-04:59	766	386	241
05:00-05:59	1,926	626	380
06:00-06:59	3,647	1,033	592
07:00-07:59	5,043	1,626	929
08:00-08:59	3,435	2,211	1,416
09:00-09:59	2,905	2,799	2,237
10:00-10:59	2,890	3,198	2,878
11:00-11:59	3,040	3,382	3,219
12:00-12:59	3,174	3,436	3,285
13:00-13:59	3,297	3,326	3,184
14:00-14:59	3,733	3,297	3,221
15:00-15:59	4,477	3,327	3,259
16:00-16:59	5,534	3,250	3,135
17:00-17:59	4,748	3,025	2,703
18:00-18:59	2,834	2,524	2,301
19:00-19:59	1,888	1,975	1,796
20:00-20:59	1,553	1,711	1,290
21:00-21:59	1,248	1,620	921
22:00-22:59	867	1,253	604
23:00-23:59	529	827	391
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	99,008	0	0	99,008
Total Volume	293,000	46,150	39,290	378,440
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2028)

DRAFT

2018 Annual ATR Data	
Location	USH 41 SOUTH OF CTH F
Site #	050109
Trend ID	7 - ATR

Segment	13c
Target AADT	62,200

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	135	150	**285**	225	246	**471**	254	272	**526**
01:00-01:59	109	112	**221**	147	171	**318**	156	178	**334**
02:00-02:59	116	124	**240**	130	156	**286**	126	146	**272**
03:00-03:59	158	182	**340**	117	149	**266**	89	110	**199**
04:00-04:59	378	401	**779**	188	205	**393**	106	139	**245**
05:00-05:59	936	1,024	**1,960**	303	334	**637**	195	192	**387**
06:00-06:59	1,882	1,829	**3,712**	518	533	**1,051**	306	297	**603**
07:00-07:59	2,916	2,216	**5,133**	822	833	**1,655**	497	448	**945**
08:00-08:59	1,950	1,546	**3,496**	1,149	1,101	**2,250**	769	672	**1,441**
09:00-09:59	1,564	1,393	**2,956**	1,487	1,362	**2,849**	1,222	1,055	**2,277**
10:00-10:59	1,515	1,427	**2,942**	1,696	1,559	**3,255**	1,468	1,461	**2,929**
11:00-11:59	1,556	1,538	**3,094**	1,803	1,639	**3,442**	1,562	1,714	**3,276**
12:00-12:59	1,602	1,629	**3,231**	1,801	1,696	**3,497**	1,568	1,775	**3,343**
13:00-13:59	1,654	1,702	**3,356**	1,722	1,663	**3,385**	1,523	1,718	**3,241**
14:00-14:59	1,821	1,978	**3,799**	1,693	1,663	**3,356**	1,477	1,801	**3,278**
15:00-15:59	2,174	2,382	**4,556**	1,722	1,664	**3,386**	1,464	1,853	**3,317**
16:00-16:59	2,601	3,031	**5,632**	1,705	1,603	**3,308**	1,446	1,745	**3,191**
17:00-17:59	2,430	2,402	**4,832**	1,622	1,457	**3,079**	1,297	1,454	**2,751**
18:00-18:59	1,519	1,365	**2,884**	1,359	1,210	**2,569**	1,091	1,251	**2,342**
19:00-19:59	979	942	**1,921**	1,023	987	**2,010**	837	991	**1,828**
20:00-20:59	783	797	**1,581**	854	887	**1,741**	630	683	**1,313**
21:00-21:59	628	642	**1,270**	749	900	**1,649**	455	482	**937**
22:00-22:59	418	465	**882**	561	714	**1,275**	283	332	**615**
23:00-23:59	259	280	**539**	368	474	**842**	161	237	**398**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	165%	185%
0.4%	144%	151%
0.4%	119%	113%
0.6%	78%	58%
1.3%	50%	31%
3.3%	32%	20%
6.2%	28%	16%
8.6%	32%	18%
5.9%	64%	41%
5.0%	96%	77%
4.9%	111%	100%
5.2%	111%	106%
5.4%	108%	103%
5.6%	101%	97%
6.4%	88%	86%
7.6%	74%	73%
9.4%	59%	57%
8.1%	64%	57%
4.8%	89%	81%
3.2%	105%	95%
2.7%	110%	83%
2.1%	130%	74%
1.5%	144%	70%
0.9%	156%	74%

High Volume Hour Calculations

Hour	*D* Mon-Fri	Saturdays	Sundays
00:00-00:59	297	491	549
01:00-01:59	230	332	348
02:00-02:59	250	298	284
03:00-03:59	355	277	208
04:00-04:59	813	410	256
05:00-05:59	2,044	664	404
06:00-06:59	3,871	1,096	629
07:00-07:59	5,353	1,726	986
08:00-08:59	3,646	2,347	1,503
09:00-09:59	3,083	2,971	2,375
10:00-10:59	3,068	3,395	3,055
11:00-11:59	3,227	3,590	3,417
12:00-12:59	3,369	3,647	3,486
13:00-13:59	3,500	3,530	3,380
14:00-14:59	3,962	3,500	3,419
15:00-15:59	4,752	3,531	3,459
16:00-16:59	5,874	3,450	3,328
17:00-17:59	5,040	3,211	2,869
18:00-18:59	3,008	2,679	2,442
19:00-19:59	2,004	2,096	1,906
20:00-20:59	1,649	1,816	1,369
21:00-21:59	1,324	1,720	977
22:00-22:59	920	1,330	641
23:00-23:59	562	878	415
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	105,090	0	0	105,090
Total Volume	311,000	48,985	41,704	401,689
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 - South of CTH BB
Site #	706123
Trend ID	1 - ATR

Segment	1a
Target AADT	88,950

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	209	239	**447**	324	310	**634**	288	316	**604**
01:00-01:59	176	205	**381**	216	205	**421**	191	200	**391**
02:00-02:59	142	181	**323**	166	189	**355**	137	187	**324**
03:00-03:59	212	260	**472**	172	185	**357**	105	134	**239**
04:00-04:59	476	596	**1,073**	228	269	**497**	127	165	**292**
05:00-05:59	1,030	1,276	**2,306**	392	449	**841**	238	289	**527**
06:00-06:59	1,939	2,230	**4,170**	626	755	**1,381**	354	425	**779**
07:00-07:59	3,100	3,400	**6,499**	1,012	1,095	**2,107**	587	610	**1,197**
08:00-08:59	2,440	2,538	**4,978**	1,459	1,536	**2,995**	911	1,014	**1,925**
09:00-09:59	2,087	2,058	**4,145**	2,000	1,912	**3,912**	1,525	1,438	**2,963**
10:00-10:59	2,177	2,182	**4,358**	2,463	2,284	**4,747**	1,994	1,989	**3,983**
11:00-11:59	2,319	2,439	**4,757**	2,635	2,466	**5,101**	2,225	2,397	**4,622**
12:00-12:59	2,403	2,633	**5,036**	2,613	2,644	**5,257**	2,271	2,593	**4,864**
13:00-13:59	2,436	2,820	**5,256**	2,494	2,647	**5,141**	2,100	2,596	**4,696**
14:00-14:59	2,709	3,145	**5,853**	2,375	2,640	**5,015**	2,014	2,681	**4,695**
15:00-15:59	3,204	3,448	**6,652**	2,289	2,593	**4,882**	1,992	2,744	**4,736**
16:00-16:59	3,679	3,927	**7,606**	2,183	2,512	**4,695**	1,901	2,660	**4,561**
17:00-17:59	3,162	3,396	**6,558**	1,971	2,302	**4,273**	1,673	2,300	**3,973**
18:00-18:59	1,997	2,203	**4,200**	1,621	1,933	**3,554**	1,377	1,889	**3,266**
19:00-19:59	1,313	1,616	**2,929**	1,210	1,547	**2,757**	1,055	1,412	**2,467**
20:00-20:59	953	1,396	**2,349**	955	1,350	**2,305**	804	990	**1,794**
21:00-21:59	734	1,083	**1,818**	775	1,185	**1,960**	568	728	**1,296**
22:00-22:59	580	720	**1,300**	625	872	**1,497**	398	455	**853**
23:00-23:59	366	387	**754**	455	539	**994**	230	276	**506**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	142%	135%
0.5%	110%	103%
0.4%	110%	100%
0.6%	76%	51%
1.3%	46%	27%
2.7%	36%	23%
5.0%	33%	19%
7.7%	32%	18%
5.9%	60%	39%
4.9%	94%	71%
5.2%	109%	91%
5.6%	107%	97%
6.0%	104%	97%
6.2%	98%	89%
6.9%	86%	80%
7.9%	73%	71%
9.0%	62%	60%
7.8%	65%	61%
5.0%	85%	78%
3.5%	94%	84%
2.8%	98%	76%
2.2%	108%	71%
1.5%	115%	66%
0.9%	132%	67%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	473	670	638
01:00-01:59	403	445	413
02:00-02:59	341	375	342
03:00-03:59	498	377	252
04:00-04:59	1,133	525	308
05:00-05:59	2,435	888	557
06:00-06:59	4,404	1,459	823
07:00-07:59	6,864	2,225	1,264
08:00-08:59	5,258	3,163	2,033
09:00-09:59	4,378	4,132	3,129
10:00-10:59	4,603	5,014	4,207
11:00-11:59	5,024	5,387	4,882
12:00-12:59	5,319	5,552	5,137
13:00-13:59	5,551	5,430	4,960
14:00-14:59	6,182	5,297	4,959
15:00-15:59	7,025	5,156	5,002
16:00-16:59	8,033	4,959	4,817
17:00-17:59	6,927	4,513	4,196
18:00-18:59	4,436	3,754	3,449
19:00-19:59	3,094	2,912	2,606
20:00-20:59	2,481	2,434	1,895
21:00-21:59	1,920	2,070	1,369
22:00-22:59	1,373	1,581	901
23:00-23:59	796	1,050	534
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	175,155	0	0	175,155
Total Volume	444,750	69,367	58,673	572,790
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	1b
Target AADT	82,550

2018 Annual ATR Data	
Location	USH 41 - South of CTH BB
Site #	706123
Trend ID	1 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	209	239	**447**	324	310	**634**	288	316	**604**
01:00-01:59	176	205	**381**	216	205	**421**	191	200	**391**
02:00-02:59	142	181	**323**	166	189	**355**	137	187	**324**
03:00-03:59	212	260	**472**	172	185	**357**	105	134	**239**
04:00-04:59	476	596	**1,073**	228	269	**497**	127	165	**292**
05:00-05:59	1,030	1,276	**2,306**	392	449	**841**	238	289	**527**
06:00-06:59	1,939	2,230	**4,170**	626	755	**1,381**	354	425	**779**
07:00-07:59	3,100	3,400	**6,499**	1,012	1,095	**2,107**	587	610	**1,197**
08:00-08:59	2,440	2,538	**4,978**	1,459	1,536	**2,995**	911	1,014	**1,925**
09:00-09:59	2,087	2,058	**4,145**	2,000	1,912	**3,912**	1,525	1,438	**2,963**
10:00-10:59	2,177	2,182	**4,358**	2,463	2,284	**4,747**	1,994	1,989	**3,983**
11:00-11:59	2,319	2,439	**4,757**	2,635	2,466	**5,101**	2,225	2,397	**4,622**
12:00-12:59	2,403	2,633	**5,036**	2,613	2,644	**5,257**	2,271	2,593	**4,864**
13:00-13:59	2,436	2,820	**5,256**	2,494	2,647	**5,141**	2,100	2,596	**4,696**
14:00-14:59	2,709	3,145	**5,853**	2,375	2,640	**5,015**	2,014	2,681	**4,695**
15:00-15:59	3,204	3,448	**6,652**	2,289	2,593	**4,882**	1,992	2,744	**4,736**
16:00-16:59	3,679	3,927	**7,606**	2,183	2,512	**4,695**	1,901	2,660	**4,561**
17:00-17:59	3,162	3,396	**6,558**	1,971	2,302	**4,273**	1,673	2,300	**3,973**
18:00-18:59	1,997	2,203	**4,200**	1,621	1,933	**3,554**	1,377	1,889	**3,266**
19:00-19:59	1,313	1,616	**2,929**	1,210	1,547	**2,757**	1,055	1,412	**2,467**
20:00-20:59	953	1,396	**2,349**	955	1,350	**2,305**	804	990	**1,794**
21:00-21:59	734	1,083	**1,818**	775	1,185	**1,960**	568	728	**1,296**
22:00-22:59	580	720	**1,300**	625	872	**1,497**	398	455	**853**
23:00-23:59	366	387	**754**	455	539	**994**	230	276	**506**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	142%	135%
0.5%	110%	103%
0.4%	110%	100%
0.6%	76%	51%
1.3%	46%	27%
2.7%	36%	23%
5.0%	33%	19%
7.7%	32%	18%
5.9%	60%	39%
4.9%	94%	71%
5.2%	109%	91%
5.6%	107%	97%
6.0%	104%	97%
6.2%	98%	89%
6.9%	86%	80%
7.9%	73%	71%
9.0%	62%	60%
7.8%	65%	61%
5.0%	85%	78%
3.5%	94%	84%
2.8%	98%	76%
2.2%	108%	71%
1.5%	115%	66%
0.9%	132%	67%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	439	621	592
01:00-01:59	374	413	383
02:00-02:59	317	348	318
03:00-03:59	462	350	234
04:00-04:59	1,052	487	286
05:00-05:59	2,260	824	517
06:00-06:59	4,087	1,354	764
07:00-07:59	6,370	2,065	1,173
08:00-08:59	4,879	2,936	1,887
09:00-09:59	4,063	3,834	2,904
10:00-10:59	4,272	4,653	3,904
11:00-11:59	4,663	5,000	4,530
12:00-12:59	4,936	5,153	4,768
13:00-13:59	5,152	5,039	4,603
14:00-14:59	5,737	4,916	4,602
15:00-15:59	6,520	4,785	4,642
16:00-16:59	7,455	4,602	4,471
17:00-17:59	6,428	4,188	3,894
18:00-18:59	4,117	3,484	3,201
19:00-19:59	2,871	2,702	2,418
20:00-20:59	2,302	2,259	1,758
21:00-21:59	1,782	1,921	1,270
22:00-22:59	1,274	1,467	836
23:00-23:59	739	974	496
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	133,867	0	0	133,867
Total Volume	412,750	64,376	54,451	531,577
				25%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	2a
Target AADT	76,950

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH BB & STH 125
Site #	440166
Trend ID	1 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	262	252	**252**			**337**			**330**
01:00-01:59	193	178	**371**			**395**			**382**
02:00-02:59	174	155	**328**			**336**			**295**
03:00-03:59	170	333	**503**			**362**			**229**
04:00-04:59	446	652	**1,098**			**484**			**282**
05:00-05:59	1,098	1,430	**2,528**			**866**			**548**
06:00-06:59	1,996	2,575	**4,571**			**1,452**			**798**
07:00-07:59	3,129	3,692	**6,821**			**2,174**			**1,261**
08:00-08:59	2,619	2,494	**5,112**			**3,074**			**1,984**
09:00-09:59	2,302	2,139	**4,441**			**4,152**			**3,232**
10:00-10:59	2,327	2,125	**4,452**			**4,703**			**4,085**
11:00-11:59	2,585	2,348	**4,932**			**5,050**			**4,693**
12:00-12:59	2,564	2,606	**5,170**			**5,062**			**4,862**
13:00-13:59	2,622	2,854	**5,476**			**4,968**			**4,700**
14:00-14:59	3,017	2,882	**5,898**			**4,714**			**4,550**
15:00-15:59	3,408	3,152	**6,560**			**4,404**			**4,442**
16:00-16:59	4,343	3,762	**8,104**			**4,667**			**4,662**
17:00-17:59	3,763	3,401	**7,163**			**4,355**			**4,250**
18:00-18:59	2,411	2,204	**4,615**			**3,696**			**3,596**
19:00-19:59	1,619	1,663	**3,282**			**3,015**			**2,902**
20:00-20:59	1,201	1,614	**2,815**			**2,726**			**2,265**
21:00-21:59	887	1,452	**2,339**			**2,544**			**1,739**
22:00-22:59	692	772	**1,464**			**1,695**			**1,006**
23:00-23:59	417	363	**779**			**1,036**			**537**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.3%	134%	131%
	0.4%	107%	103%
	0.4%	102%	90%
	0.6%	72%	45%
	1.2%	44%	26%
	2.8%	34%	22%
	5.1%	32%	17%
	7.7%	32%	18%
	5.7%	60%	39%
	5.0%	94%	73%
	5.0%	106%	92%
	5.5%	102%	95%
	5.8%	98%	94%
	6.1%	91%	86%
	6.6%	80%	77%
	7.4%	67%	68%
	9.1%	58%	58%
	8.0%	61%	59%
	5.2%	80%	78%
	3.7%	92%	88%
	3.2%	97%	80%
	2.6%	109%	74%
	1.6%	116%	69%
	0.9%	133%	69%

**Trends from ATR 440105*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	218	291	285
01:00-01:59	320	341	330
02:00-02:59	283	290	255
03:00-03:59	434	313	197
04:00-04:59	949	418	244
05:00-05:59	2,184	749	474
06:00-06:59	3,949	1,255	690
07:00-07:59	5,893	1,878	1,090
08:00-08:59	4,416	2,656	1,714
09:00-09:59	3,836	3,587	2,792
10:00-10:59	3,847	4,063	3,529
11:00-11:59	4,261	4,363	4,055
12:00-12:59	4,466	4,374	4,201
13:00-13:59	4,731	4,292	4,060
14:00-14:59	5,096	4,072	3,931
15:00-15:59	5,667	3,805	3,838
16:00-16:59	7,001	4,032	4,028
17:00-17:59	6,188	3,763	3,672
18:00-18:59	3,987	3,193	3,107
19:00-19:59	2,835	2,605	2,507
20:00-20:59	2,432	2,355	1,957
21:00-21:59	2,020	2,198	1,502
22:00-22:59	1,264	1,465	869
23:00-23:59	673	895	464
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	65,949	0	0	65,949
Total Volume	384,750	57,252	49,790	491,792
				13%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	2b
Target AADT	83,500

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH BB & STH 125
Site #	440166
Trend ID	1 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	262	252	**252**			**337**			**330**
01:00-01:59	193	178	**371**			**395**			**382**
02:00-02:59	174	155	**328**			**336**			**295**
03:00-03:59	170	333	**503**			**362**			**229**
04:00-04:59	446	652	**1,098**			**484**			**282**
05:00-05:59	1,098	1,430	**2,528**			**866**			**548**
06:00-06:59	1,996	2,575	**4,571**			**1,452**			**798**
07:00-07:59	3,129	3,692	**6,821**			**2,174**			**1,261**
08:00-08:59	2,619	2,494	**5,112**			**3,074**			**1,984**
09:00-09:59	2,302	2,139	**4,441**			**4,152**			**3,232**
10:00-10:59	2,327	2,125	**4,452**			**4,703**			**4,085**
11:00-11:59	2,585	2,348	**4,932**			**5,050**			**4,693**
12:00-12:59	2,564	2,606	**5,170**			**5,062**			**4,862**
13:00-13:59	2,622	2,854	**5,476**			**4,968**			**4,700**
14:00-14:59	3,017	2,882	**5,898**			**4,714**			**4,550**
15:00-15:59	3,408	3,152	**6,560**			**4,404**			**4,442**
16:00-16:59	4,343	3,762	**8,104**			**4,667**			**4,662**
17:00-17:59	3,763	3,401	**7,163**			**4,355**			**4,250**
18:00-18:59	2,411	2,204	**4,615**			**3,696**			**3,596**
19:00-19:59	1,619	1,663	**3,282**			**3,015**			**2,902**
20:00-20:59	1,201	1,614	**2,815**			**2,726**			**2,265**
21:00-21:59	887	1,452	**2,339**			**2,544**			**1,739**
22:00-22:59	692	772	**1,464**			**1,695**			**1,006**
23:00-23:59	417	363	**779**			**1,036**			**537**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.3%	134%	131%
	0.4%	107%	103%
	0.4%	102%	90%
	0.6%	72%	45%
	1.2%	44%	26%
	2.8%	34%	22%
	5.1%	32%	17%
	7.7%	32%	18%
	5.7%	60%	39%
	5.0%	94%	73%
	5.0%	106%	92%
	5.5%	102%	95%
	5.8%	98%	94%
	6.1%	91%	86%
	6.6%	80%	77%
	7.4%	67%	68%
	9.1%	58%	58%
	8.0%	61%	59%
	5.2%	80%	78%
	3.7%	92%	88%
	3.2%	97%	80%
	2.6%	109%	74%
	1.6%	116%	69%
	0.9%	133%	69%

**Trends from ATR 440105*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	236	316	309
01:00-01:59	347	370	358
02:00-02:59	307	315	277
03:00-03:59	471	340	214
04:00-04:59	1,029	454	265
05:00-05:59	2,369	812	514
06:00-06:59	4,285	1,361	748
07:00-07:59	6,394	2,038	1,183
08:00-08:59	4,792	2,882	1,860
09:00-09:59	4,163	3,893	3,030
10:00-10:59	4,174	4,409	3,829
11:00-11:59	4,624	4,734	4,400
12:00-12:59	4,846	4,746	4,558
13:00-13:59	5,133	4,658	4,406
14:00-14:59	5,529	4,419	4,265
15:00-15:59	6,150	4,129	4,165
16:00-16:59	7,597	4,375	4,370
17:00-17:59	6,715	4,083	3,984
18:00-18:59	4,326	3,465	3,371
19:00-19:59	3,077	2,826	2,721
20:00-20:59	2,639	2,556	2,123
21:00-21:59	2,192	2,385	1,630
22:00-22:59	1,372	1,589	943
23:00-23:59	730	971	504
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	134,283	0	0	134,283
Total Volume	417,500	62,125	54,028	533,653
				25%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	2c
Target AADT	90,600

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH BB & STH 125
Site #	440166
Trend ID	1 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	262	252	**252**			**337**			**330**
01:00-01:59	193	178	**371**			**395**			**382**
02:00-02:59	174	155	**328**			**336**			**295**
03:00-03:59	170	333	**503**			**362**			**229**
04:00-04:59	446	652	**1,098**			**484**			**282**
05:00-05:59	1,098	1,430	**2,528**			**866**			**548**
06:00-06:59	1,996	2,575	**4,571**			**1,452**			**798**
07:00-07:59	3,129	3,692	**6,821**			**2,174**			**1,261**
08:00-08:59	2,619	2,494	**5,112**			**3,074**			**1,984**
09:00-09:59	2,302	2,139	**4,441**			**4,152**			**3,232**
10:00-10:59	2,327	2,125	**4,452**			**4,703**			**4,085**
11:00-11:59	2,585	2,348	**4,932**			**5,050**			**4,693**
12:00-12:59	2,564	2,606	**5,170**			**5,062**			**4,862**
13:00-13:59	2,622	2,854	**5,476**			**4,968**			**4,700**
14:00-14:59	3,017	2,882	**5,898**			**4,714**			**4,550**
15:00-15:59	3,408	3,152	**6,560**			**4,404**			**4,442**
16:00-16:59	4,343	3,762	**8,104**			**4,667**			**4,662**
17:00-17:59	3,763	3,401	**7,163**			**4,355**			**4,250**
18:00-18:59	2,411	2,204	**4,615**			**3,696**			**3,596**
19:00-19:59	1,619	1,663	**3,282**			**3,015**			**2,902**
20:00-20:59	1,201	1,614	**2,815**			**2,726**			**2,265**
21:00-21:59	887	1,452	**2,339**			**2,544**			**1,739**
22:00-22:59	692	772	**1,464**			**1,695**			**1,006**
23:00-23:59	417	363	**779**			**1,036**			**537**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.3%	134%	131%
	0.4%	107%	103%
	0.4%	102%	90%
	0.6%	72%	45%
	1.2%	44%	26%
	2.8%	34%	22%
	5.1%	32%	17%
	7.7%	32%	18%
	5.7%	60%	39%
	5.0%	94%	73%
	5.0%	106%	92%
	5.5%	102%	95%
	5.8%	98%	94%
	6.1%	91%	86%
	6.6%	80%	77%
	7.4%	67%	68%
	9.1%	58%	58%
	8.0%	61%	59%
	5.2%	80%	78%
	3.7%	92%	88%
	3.2%	97%	80%
	2.6%	109%	74%
	1.6%	116%	69%
	0.9%	133%	69%

**Trends from ATR 440105*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	256	343	336
01:00-01:59	377	402	389
02:00-02:59	334	342	300
03:00-03:59	511	368	232
04:00-04:59	1,117	492	287
05:00-05:59	2,571	881	558
06:00-06:59	4,649	1,477	812
07:00-07:59	6,938	2,211	1,283
08:00-08:59	5,200	3,127	2,018
09:00-09:59	4,517	4,223	3,288
10:00-10:59	4,529	4,784	4,155
11:00-11:59	5,017	5,137	4,774
12:00-12:59	5,258	5,149	4,946
13:00-13:59	5,570	5,054	4,781
14:00-14:59	5,999	4,795	4,628
15:00-15:59	6,673	4,480	4,519
16:00-16:59	8,243	4,747	4,742
17:00-17:59	7,286	4,430	4,323
18:00-18:59	4,694	3,760	3,658
19:00-19:59	3,338	3,067	2,952
20:00-20:59	2,863	2,773	2,304
21:00-21:59	2,379	2,588	1,769
22:00-22:59	1,489	1,724	1,023
23:00-23:59	792	1,054	546
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	145,701	0	0	145,701
Total Volume	453,000	67,408	58,622	579,030
				25%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	2d
Target AADT	82,750

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH BB & STH 125
Site #	440166
Trend ID	1 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	262	252	**252**			**337**			**330**
01:00-01:59	193	178	**371**			**395**			**382**
02:00-02:59	174	155	**328**			**336**			**295**
03:00-03:59	170	333	**503**			**362**			**229**
04:00-04:59	446	652	**1,098**			**484**			**282**
05:00-05:59	1,098	1,430	**2,528**			**866**			**548**
06:00-06:59	1,996	2,575	**4,571**			**1,452**			**798**
07:00-07:59	3,129	3,692	**6,821**			**2,174**			**1,261**
08:00-08:59	2,619	2,494	**5,112**			**3,074**			**1,984**
09:00-09:59	2,302	2,139	**4,441**			**4,152**			**3,232**
10:00-10:59	2,327	2,125	**4,452**			**4,703**			**4,085**
11:00-11:59	2,585	2,348	**4,932**			**5,050**			**4,693**
12:00-12:59	2,564	2,606	**5,170**			**5,062**			**4,862**
13:00-13:59	2,622	2,854	**5,476**			**4,968**			**4,700**
14:00-14:59	3,017	2,882	**5,898**			**4,714**			**4,550**
15:00-15:59	3,408	3,152	**6,560**			**4,404**			**4,442**
16:00-16:59	4,343	3,762	**8,104**			**4,667**			**4,662**
17:00-17:59	3,763	3,401	**7,163**			**4,355**			**4,250**
18:00-18:59	2,411	2,204	**4,615**			**3,696**			**3,596**
19:00-19:59	1,619	1,663	**3,282**			**3,015**			**2,902**
20:00-20:59	1,201	1,614	**2,815**			**2,726**			**2,265**
21:00-21:59	887	1,452	**2,339**			**2,544**			**1,739**
22:00-22:59	692	772	**1,464**			**1,695**			**1,006**
23:00-23:59	417	363	**779**			**1,036**			**537**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.3%	134%	131%
	0.4%	107%	103%
	0.4%	102%	90%
	0.6%	72%	45%
	1.2%	44%	26%
	2.8%	34%	22%
	5.1%	32%	17%
	7.7%	32%	18%
	5.7%	60%	39%
	5.0%	94%	73%
	5.0%	106%	92%
	5.5%	102%	95%
	5.8%	98%	94%
	6.1%	91%	86%
	6.6%	80%	77%
	7.4%	67%	68%
	9.1%	58%	58%
	8.0%	61%	59%
	5.2%	80%	78%
	3.7%	92%	88%
	3.2%	97%	80%
	2.6%	109%	74%
	1.6%	116%	69%
	0.9%	133%	69%

**Trends from ATR 440105*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	234	313	306
01:00-01:59	344	367	355
02:00-02:59	305	312	274
03:00-03:59	467	337	212
04:00-04:59	1,020	450	262
05:00-05:59	2,348	805	509
06:00-06:59	4,246	1,349	742
07:00-07:59	6,337	2,019	1,172
08:00-08:59	4,749	2,856	1,843
09:00-09:59	4,125	3,858	3,003
10:00-10:59	4,136	4,370	3,795
11:00-11:59	4,582	4,692	4,360
12:00-12:59	4,803	4,703	4,517
13:00-13:59	5,087	4,616	4,366
14:00-14:59	5,480	4,379	4,227
15:00-15:59	6,095	4,091	4,127
16:00-16:59	7,529	4,336	4,331
17:00-17:59	6,655	4,046	3,949
18:00-18:59	4,287	3,434	3,341
19:00-19:59	3,049	2,801	2,696
20:00-20:59	2,615	2,533	2,104
21:00-21:59	2,173	2,364	1,615
22:00-22:59	1,360	1,575	935
23:00-23:59	724	962	499
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	133,077	0	0	133,077
Total Volume	413,750	61,567	53,543	528,860
				25%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 BTWN STH 125 & STH 96 APPLETON
Site #	440105
Trend ID	2 - ATR

Segment	3a
Target AADT	73,200

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	217	178	**395**	294	234	**528**	271	246	**517**
01:00-01:59	181	144	**326**	187	160	**347**	174	162	**336**
02:00-02:59	141	155	**296**	146	157	**303**	125	141	**266**
03:00-03:59	165	312	**477**	138	206	**344**	89	128	**217**
04:00-04:59	374	672	**1,046**	181	280	**461**	104	165	**269**
05:00-05:59	881	1,374	**2,255**	330	443	**773**	200	289	**489**
06:00-06:59	1,653	2,429	**4,082**	566	731	**1,297**	318	395	**713**
07:00-07:59	2,581	3,588	**6,169**	911	1,055	**1,966**	580	561	**1,141**
08:00-08:59	2,070	2,483	**4,553**	1,269	1,469	**2,738**	858	909	**1,767**
09:00-09:59	1,785	1,916	**3,701**	1,667	1,794	**3,461**	1,350	1,344	**2,694**
10:00-10:59	1,858	1,941	**3,799**	1,992	2,021	**4,013**	1,662	1,823	**3,485**
11:00-11:59	2,019	2,100	**4,119**	2,131	2,087	**4,218**	1,825	2,095	**3,920**
12:00-12:59	2,124	2,219	**4,343**	2,131	2,122	**4,253**	1,875	2,210	**4,085**
13:00-13:59	2,189	2,322	**4,511**	2,040	2,053	**4,093**	1,787	2,085	**3,872**
14:00-14:59	2,537	2,465	**5,003**	2,003	1,995	**3,998**	1,735	2,124	**3,859**
15:00-15:59	3,043	2,735	**5,778**	1,951	1,928	**3,879**	1,738	2,175	**3,913**
16:00-16:59	3,563	3,013	**6,576**	1,903	1,884	**3,787**	1,707	2,076	**3,783**
17:00-17:59	3,019	2,632	**5,651**	1,720	1,716	**3,436**	1,548	1,805	**3,353**
18:00-18:59	1,852	1,694	**3,546**	1,415	1,425	**2,840**	1,305	1,458	**2,763**
19:00-19:59	1,277	1,169	**2,446**	1,122	1,125	**2,247**	1,023	1,140	**2,163**
20:00-20:59	982	997	**1,978**	944	972	**1,916**	778	814	**1,592**
21:00-21:59	751	770	**1,521**	784	871	**1,655**	566	565	**1,131**
22:00-22:59	562	524	**1,085**	598	659	**1,257**	379	367	**746**
23:00-23:59	358	291	**648**	428	434	**862**	219	228	**447**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.4%	44%	26%
3.0%	34%	22%
5.5%	32%	17%
8.3%	32%	18%
6.1%	60%	39%
5.0%	94%	73%
5.1%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.7%	80%	77%
7.8%	67%	68%
8.9%	58%	58%
7.6%	61%	59%
4.8%	80%	78%
3.3%	92%	88%
2.7%	97%	80%
2.0%	109%	74%
1.5%	116%	69%
0.9%	133%	69%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	389	520	509
01:00-01:59	321	342	331
02:00-02:59	291	298	262
03:00-03:59	470	339	214
04:00-04:59	1,030	454	265
05:00-05:59	2,221	762	482
06:00-06:59	4,021	1,278	702
07:00-07:59	6,077	1,937	1,124
08:00-08:59	4,485	2,697	1,741
09:00-09:59	3,646	3,410	2,654
10:00-10:59	3,742	3,953	3,433
11:00-11:59	4,058	4,155	3,862
12:00-12:59	4,278	4,190	4,024
13:00-13:59	4,444	4,032	3,814
14:00-14:59	4,928	3,939	3,802
15:00-15:59	5,692	3,821	3,855
16:00-16:59	6,478	3,731	3,727
17:00-17:59	5,567	3,385	3,303
18:00-18:59	3,493	2,798	2,722
19:00-19:59	2,410	2,214	2,131
20:00-20:59	1,949	1,888	1,568
21:00-21:59	1,499	1,630	1,114
22:00-22:59	1,069	1,238	735
23:00-23:59	639	849	440
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	62,780	0	0	62,780
Total Volume	366,000	53,859	46,815	466,674
				13%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 BTWN STH 125 & STH 96 APPLETON
Site #	440105
Trend ID	2 - ATR

Segment	3b
Target AADT	79,350

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	217	178	**395**	294	234	**528**	271	246	**517**
01:00-01:59	181	144	**326**	187	160	**347**	174	162	**336**
02:00-02:59	141	155	**296**	146	157	**303**	125	141	**266**
03:00-03:59	165	312	**477**	138	206	**344**	89	128	**217**
04:00-04:59	374	672	**1,046**	181	280	**461**	104	165	**269**
05:00-05:59	881	1,374	**2,255**	330	443	**773**	200	289	**489**
06:00-06:59	1,653	2,429	**4,082**	566	731	**1,297**	318	395	**713**
07:00-07:59	2,581	3,588	**6,169**	911	1,055	**1,966**	580	561	**1,141**
08:00-08:59	2,070	2,483	**4,553**	1,269	1,469	**2,738**	858	909	**1,767**
09:00-09:59	1,785	1,916	**3,701**	1,667	1,794	**3,461**	1,350	1,344	**2,694**
10:00-10:59	1,858	1,941	**3,799**	1,992	2,021	**4,013**	1,662	1,823	**3,485**
11:00-11:59	2,019	2,100	**4,119**	2,131	2,087	**4,218**	1,825	2,095	**3,920**
12:00-12:59	2,124	2,219	**4,343**	2,131	2,122	**4,253**	1,875	2,210	**4,085**
13:00-13:59	2,189	2,322	**4,511**	2,040	2,053	**4,093**	1,787	2,085	**3,872**
14:00-14:59	2,537	2,465	**5,003**	2,003	1,995	**3,998**	1,735	2,124	**3,859**
15:00-15:59	3,043	2,735	**5,778**	1,951	1,928	**3,879**	1,738	2,175	**3,913**
16:00-16:59	3,563	3,013	**6,576**	1,903	1,884	**3,787**	1,707	2,076	**3,783**
17:00-17:59	3,019	2,632	**5,651**	1,720	1,716	**3,436**	1,548	1,805	**3,353**
18:00-18:59	1,852	1,694	**3,546**	1,415	1,425	**2,840**	1,305	1,458	**2,763**
19:00-19:59	1,277	1,169	**2,446**	1,122	1,125	**2,247**	1,023	1,140	**2,163**
20:00-20:59	982	997	**1,978**	944	972	**1,916**	778	814	**1,592**
21:00-21:59	751	770	**1,521**	784	871	**1,655**	566	565	**1,131**
22:00-22:59	562	524	**1,085**	598	659	**1,257**	379	367	**746**
23:00-23:59	358	291	**648**	428	434	**862**	219	228	**447**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.4%	44%	26%
3.0%	34%	22%
5.5%	32%	17%
8.3%	32%	18%
6.1%	60%	39%
5.0%	94%	73%
5.1%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.7%	80%	77%
7.8%	67%	68%
8.9%	58%	58%
7.6%	61%	59%
4.8%	80%	78%
3.3%	92%	88%
2.7%	97%	80%
2.0%	109%	74%
1.5%	116%	69%
0.9%	133%	69%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	422	564	552
01:00-01:59	348	371	359
02:00-02:59	316	324	284
03:00-03:59	510	367	232
04:00-04:59	1,117	492	287
05:00-05:59	2,408	825	522
06:00-06:59	4,359	1,385	761
07:00-07:59	6,588	2,099	1,218
08:00-08:59	4,862	2,924	1,887
09:00-09:59	3,953	3,696	2,877
10:00-10:59	4,057	4,285	3,722
11:00-11:59	4,399	4,504	4,186
12:00-12:59	4,638	4,542	4,362
13:00-13:59	4,817	4,371	4,135
14:00-14:59	5,342	4,269	4,121
15:00-15:59	6,171	4,142	4,179
16:00-16:59	7,023	4,044	4,040
17:00-17:59	6,035	3,669	3,581
18:00-18:59	3,786	3,033	2,951
19:00-19:59	2,612	2,400	2,310
20:00-20:59	2,113	2,046	1,700
21:00-21:59	1,624	1,767	1,208
22:00-22:59	1,159	1,342	797
23:00-23:59	692	921	477
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	129,082	0	0	129,082
Total Volume	396,750	58,384	50,748	505,882
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	3c
Target AADT	85,900

2018 Annual ATR Data	
Location	USH 41 BTWN STH 125 & STH 96 APPLETON
Site #	440105
Trend ID	2 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	217	178	**395**	294	234	**528**	271	246	**517**
01:00-01:59	181	144	**326**	187	160	**347**	174	162	**336**
02:00-02:59	141	155	**296**	146	157	**303**	125	141	**266**
03:00-03:59	165	312	**477**	138	206	**344**	89	128	**217**
04:00-04:59	374	672	**1,046**	181	280	**461**	104	165	**269**
05:00-05:59	881	1,374	**2,255**	330	443	**773**	200	289	**489**
06:00-06:59	1,653	2,429	**4,082**	566	731	**1,297**	318	395	**713**
07:00-07:59	2,581	3,588	**6,169**	911	1,055	**1,966**	580	561	**1,141**
08:00-08:59	2,070	2,483	**4,553**	1,269	1,469	**2,738**	858	909	**1,767**
09:00-09:59	1,785	1,916	**3,701**	1,667	1,794	**3,461**	1,350	1,344	**2,694**
10:00-10:59	1,858	1,941	**3,799**	1,992	2,021	**4,013**	1,662	1,823	**3,485**
11:00-11:59	2,019	2,100	**4,119**	2,131	2,087	**4,218**	1,825	2,095	**3,920**
12:00-12:59	2,124	2,219	**4,343**	2,131	2,122	**4,253**	1,875	2,210	**4,085**
13:00-13:59	2,189	2,322	**4,511**	2,040	2,053	**4,093**	1,787	2,085	**3,872**
14:00-14:59	2,537	2,465	**5,003**	2,003	1,995	**3,998**	1,735	2,124	**3,859**
15:00-15:59	3,043	2,735	**5,778**	1,951	1,928	**3,879**	1,738	2,175	**3,913**
16:00-16:59	3,563	3,013	**6,576**	1,903	1,884	**3,787**	1,707	2,076	**3,783**
17:00-17:59	3,019	2,632	**5,651**	1,720	1,716	**3,436**	1,548	1,805	**3,353**
18:00-18:59	1,852	1,694	**3,546**	1,415	1,425	**2,840**	1,305	1,458	**2,763**
19:00-19:59	1,277	1,169	**2,446**	1,122	1,125	**2,247**	1,023	1,140	**2,163**
20:00-20:59	982	997	**1,978**	944	972	**1,916**	778	814	**1,592**
21:00-21:59	751	770	**1,521**	784	871	**1,655**	566	565	**1,131**
22:00-22:59	562	524	**1,085**	598	659	**1,257**	379	367	**746**
23:00-23:59	358	291	**648**	428	434	**862**	219	228	**447**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.4%	44%	26%
3.0%	34%	22%
5.5%	32%	17%
8.3%	32%	18%
6.1%	60%	39%
5.0%	94%	73%
5.1%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.7%	80%	77%
7.8%	67%	68%
8.9%	58%	58%
7.6%	61%	59%
4.8%	80%	78%
3.3%	92%	88%
2.7%	97%	80%
2.0%	109%	74%
1.5%	116%	69%
0.9%	133%	69%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	457	610	598
01:00-01:59	376	401	388
02:00-02:59	342	350	308
03:00-03:59	552	398	251
04:00-04:59	1,209	533	311
05:00-05:59	2,607	894	565
06:00-06:59	4,719	1,499	824
07:00-07:59	7,132	2,273	1,319
08:00-08:59	5,263	3,165	2,043
09:00-09:59	4,279	4,001	3,114
10:00-10:59	4,392	4,639	4,029
11:00-11:59	4,762	4,876	4,532
12:00-12:59	5,021	4,917	4,722
13:00-13:59	5,215	4,732	4,476
14:00-14:59	5,783	4,622	4,461
15:00-15:59	6,680	4,484	4,524
16:00-16:59	7,602	4,378	4,373
17:00-17:59	6,533	3,972	3,876
18:00-18:59	4,099	3,283	3,194
19:00-19:59	2,828	2,598	2,501
20:00-20:59	2,287	2,215	1,840
21:00-21:59	1,759	1,913	1,307
22:00-22:59	1,255	1,453	862
23:00-23:59	749	997	517
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	139,737	0	0	139,737
Total Volume	429,500	63,204	54,937	547,640
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

Segment	3d
Target AADT	77,500

2018 Annual ATR Data	
Location	USH 41 BTWN STH 125 & STH 96 APPLETON
Site #	440105
Trend ID	2 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	217	178	**395**	294	234	**528**	271	246	**517**
01:00-01:59	181	144	**326**	187	160	**347**	174	162	**336**
02:00-02:59	141	155	**296**	146	157	**303**	125	141	**266**
03:00-03:59	165	312	**477**	138	206	**344**	89	128	**217**
04:00-04:59	374	672	**1,046**	181	280	**461**	104	165	**269**
05:00-05:59	881	1,374	**2,255**	330	443	**773**	200	289	**489**
06:00-06:59	1,653	2,429	**4,082**	566	731	**1,297**	318	395	**713**
07:00-07:59	2,581	3,588	**6,169**	911	1,055	**1,966**	580	561	**1,141**
08:00-08:59	2,070	2,483	**4,553**	1,269	1,469	**2,738**	858	909	**1,767**
09:00-09:59	1,785	1,916	**3,701**	1,667	1,794	**3,461**	1,350	1,344	**2,694**
10:00-10:59	1,858	1,941	**3,799**	1,992	2,021	**4,013**	1,662	1,823	**3,485**
11:00-11:59	2,019	2,100	**4,119**	2,131	2,087	**4,218**	1,825	2,095	**3,920**
12:00-12:59	2,124	2,219	**4,343**	2,131	2,122	**4,253**	1,875	2,210	**4,085**
13:00-13:59	2,189	2,322	**4,511**	2,040	2,053	**4,093**	1,787	2,085	**3,872**
14:00-14:59	2,537	2,465	**5,003**	2,003	1,995	**3,998**	1,735	2,124	**3,859**
15:00-15:59	3,043	2,735	**5,778**	1,951	1,928	**3,879**	1,738	2,175	**3,913**
16:00-16:59	3,563	3,013	**6,576**	1,903	1,884	**3,787**	1,707	2,076	**3,783**
17:00-17:59	3,019	2,632	**5,651**	1,720	1,716	**3,436**	1,548	1,805	**3,353**
18:00-18:59	1,852	1,694	**3,546**	1,415	1,425	**2,840**	1,305	1,458	**2,763**
19:00-19:59	1,277	1,169	**2,446**	1,122	1,125	**2,247**	1,023	1,140	**2,163**
20:00-20:59	982	997	**1,978**	944	972	**1,916**	778	814	**1,592**
21:00-21:59	751	770	**1,521**	784	871	**1,655**	566	565	**1,131**
22:00-22:59	562	524	**1,085**	598	659	**1,257**	379	367	**746**
23:00-23:59	358	291	**648**	428	434	**862**	219	228	**447**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.5%	134%	131%
	0.4%	107%	103%
	0.4%	102%	90%
	0.6%	72%	45%
	1.4%	44%	26%
	3.0%	34%	22%
	5.5%	32%	17%
	8.3%	32%	18%
	6.1%	60%	39%
	5.0%	94%	73%
	5.1%	106%	92%
	5.5%	102%	95%
	5.8%	98%	94%
	6.1%	91%	86%
	6.7%	80%	77%
	7.8%	67%	68%
	8.9%	58%	58%
	7.6%	61%	59%
	4.8%	80%	78%
	3.3%	92%	88%
	2.7%	97%	80%
	2.0%	109%	74%
	1.5%	116%	69%
	0.9%	133%	69%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	412	551	539
01:00-01:59	340	362	350
02:00-02:59	309	316	277
03:00-03:59	498	359	226
04:00-04:59	1,091	481	281
05:00-05:59	2,352	806	510
06:00-06:59	4,258	1,353	744
07:00-07:59	6,435	2,051	1,190
08:00-08:59	4,749	2,856	1,843
09:00-09:59	3,861	3,610	2,810
10:00-10:59	3,962	4,186	3,635
11:00-11:59	4,297	4,399	4,089
12:00-12:59	4,530	4,436	4,261
13:00-13:59	4,705	4,269	4,039
14:00-14:59	5,218	4,170	4,025
15:00-15:59	6,027	4,046	4,081
16:00-16:59	6,859	3,950	3,946
17:00-17:59	5,894	3,584	3,497
18:00-18:59	3,698	2,962	2,882
19:00-19:59	2,551	2,344	2,256
20:00-20:59	2,063	1,998	1,660
21:00-21:59	1,587	1,726	1,180
22:00-22:59	1,132	1,311	778
23:00-23:59	676	899	466
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	96,601	0	0	96,601
Total Volume	387,500	57,023	49,565	494,088
				20%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 BTWN STH 96 & STH 15
Site #	440165
Trend ID	3 - ATR

Segment	4a
Target AADT	69,150

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	202	166	**367**	286	214	**500**	262	227	**489**
01:00-01:59	171	131	**301**	179	145	**324**	162	147	**309**
02:00-02:59	126	140	**266**	130	143	**273**	113	127	**240**
03:00-03:59	142	292	**434**	120	201	**321**	79	126	**205**
04:00-04:59	325	664	**989**	160	278	**438**	95	162	**257**
05:00-05:59	766	1,310	**2,076**	288	431	**719**	175	287	**462**
06:00-06:59	1,418	2,360	**3,777**	508	715	**1,223**	291	388	**679**
07:00-07:59	2,240	3,447	**5,686**	823	1,106	**1,929**	536	578	**1,114**
08:00-08:59	1,862	2,491	**4,353**	1,170	1,565	**2,735**	817	939	**1,756**
09:00-09:59	1,640	2,024	**3,665**	1,531	2,056	**3,587**	1,285	1,491	**2,776**
10:00-10:59	1,784	2,069	**3,852**	1,911	2,356	**4,267**	1,553	2,125	**3,678**
11:00-11:59	1,999	2,201	**4,201**	2,146	2,392	**4,538**	1,812	2,356	**4,168**
12:00-12:59	2,154	2,270	**4,424**	2,231	2,371	**4,602**	1,954	2,445	**4,399**
13:00-13:59	2,275	2,307	**4,582**	2,187	2,251	**4,438**	1,950	2,248	**4,198**
14:00-14:59	2,627	2,376	**5,003**	2,230	2,105	**4,335**	1,964	2,211	**4,175**
15:00-15:59	3,075	2,629	**5,703**	2,205	2,008	**4,213**	1,965	2,225	**4,190**
16:00-16:59	3,566	2,886	**6,452**	2,152	1,921	**4,073**	1,935	2,099	**4,034**
17:00-17:59	3,101	2,577	**5,678**	1,952	1,730	**3,682**	1,761	1,754	**3,515**
18:00-18:59	1,998	1,689	**3,687**	1,644	1,435	**3,079**	1,491	1,356	**2,847**
19:00-19:59	1,480	1,102	**2,582**	1,329	1,080	**2,409**	1,101	1,067	**2,168**
20:00-20:59	1,170	866	**2,036**	1,129	850	**1,979**	818	754	**1,572**
21:00-21:59	889	656	**1,545**	937	749	**1,686**	576	522	**1,098**
22:00-22:59	583	463	**1,046**	644	586	**1,230**	373	328	**701**
23:00-23:59	351	266	**617**	424	401	**825**	208	214	**422**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	136%	133%
0.4%	107%	103%
0.4%	103%	90%
0.6%	74%	47%
1.3%	44%	26%
2.8%	35%	22%
5.2%	32%	18%
7.8%	34%	20%
5.9%	63%	40%
5.0%	98%	76%
5.3%	111%	95%
5.7%	108%	99%
6.0%	104%	99%
6.2%	97%	92%
6.8%	87%	83%
7.8%	74%	73%
8.8%	63%	63%
7.7%	65%	62%
5.0%	84%	77%
3.5%	93%	84%
2.8%	97%	77%
2.1%	109%	71%
1.4%	118%	67%
0.8%	134%	68%

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	346	472	461
01:00-01:59	284	306	291
02:00-02:59	251	257	226
03:00-03:59	410	303	193
04:00-04:59	932	413	242
05:00-05:59	1,958	678	436
06:00-06:59	3,562	1,153	640
07:00-07:59	5,363	1,819	1,051
08:00-08:59	4,106	2,579	1,656
09:00-09:59	3,456	3,383	2,618
10:00-10:59	3,633	4,024	3,469
11:00-11:59	3,961	4,280	3,931
12:00-12:59	4,172	4,340	4,149
13:00-13:59	4,321	4,185	3,959
14:00-14:59	4,718	4,088	3,937
15:00-15:59	5,379	3,973	3,951
16:00-16:59	6,085	3,841	3,804
17:00-17:59	5,355	3,472	3,315
18:00-18:59	3,477	2,904	2,685
19:00-19:59	2,435	2,272	2,045
20:00-20:59	1,920	1,866	1,483
21:00-21:59	1,457	1,590	1,035
22:00-22:59	986	1,160	661
23:00-23:59	582	778	398
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	30,425	0	0	30,425
Total Volume	345,750	54,137	46,637	446,524
				7%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 BTWN STH 96 & STH 15
Site #	440165
Trend ID	3 - ATR

Segment	4b
Target AADT	76,400

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	202	166	**367**	286	214	**500**	262	227	**489**
01:00-01:59	171	131	**301**	179	145	**324**	162	147	**309**
02:00-02:59	126	140	**266**	130	143	**273**	113	127	**240**
03:00-03:59	142	292	**434**	120	201	**321**	79	126	**205**
04:00-04:59	325	664	**989**	160	278	**438**	95	162	**257**
05:00-05:59	766	1,310	**2,076**	288	431	**719**	175	287	**462**
06:00-06:59	1,418	2,360	**3,777**	508	715	**1,223**	291	388	**679**
07:00-07:59	2,240	3,447	**5,686**	823	1,106	**1,929**	536	578	**1,114**
08:00-08:59	1,862	2,491	**4,353**	1,170	1,565	**2,735**	817	939	**1,756**
09:00-09:59	1,640	2,024	**3,665**	1,531	2,056	**3,587**	1,285	1,491	**2,776**
10:00-10:59	1,784	2,069	**3,852**	1,911	2,356	**4,267**	1,553	2,125	**3,678**
11:00-11:59	1,999	2,201	**4,201**	2,146	2,392	**4,538**	1,812	2,356	**4,168**
12:00-12:59	2,154	2,270	**4,424**	2,231	2,371	**4,602**	1,954	2,445	**4,399**
13:00-13:59	2,275	2,307	**4,582**	2,187	2,251	**4,438**	1,950	2,248	**4,198**
14:00-14:59	2,627	2,376	**5,003**	2,230	2,105	**4,335**	1,964	2,211	**4,175**
15:00-15:59	3,075	2,629	**5,703**	2,205	2,008	**4,213**	1,965	2,225	**4,190**
16:00-16:59	3,566	2,886	**6,452**	2,152	1,921	**4,073**	1,935	2,099	**4,034**
17:00-17:59	3,101	2,577	**5,678**	1,952	1,730	**3,682**	1,761	1,754	**3,515**
18:00-18:59	1,998	1,689	**3,687**	1,644	1,435	**3,079**	1,491	1,356	**2,847**
19:00-19:59	1,480	1,102	**2,582**	1,329	1,080	**2,409**	1,101	1,067	**2,168**
20:00-20:59	1,170	866	**2,036**	1,129	850	**1,979**	818	754	**1,572**
21:00-21:59	889	656	**1,545**	937	749	**1,686**	576	522	**1,098**
22:00-22:59	583	463	**1,046**	644	586	**1,230**	373	328	**701**
23:00-23:59	351	266	**617**	424	401	**825**	208	214	**422**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.5%	136%	133%
	0.4%	107%	103%
	0.4%	103%	90%
	0.6%	74%	47%
	1.3%	44%	26%
	2.8%	35%	22%
	5.2%	32%	18%
	7.8%	34%	20%
	5.9%	63%	40%
	5.0%	98%	76%
	5.3%	111%	95%
	5.7%	108%	99%
	6.0%	104%	99%
	6.2%	97%	92%
	6.8%	87%	83%
	7.8%	74%	73%
	8.8%	63%	63%
	7.7%	65%	62%
	5.0%	84%	77%
	3.5%	93%	84%
	2.8%	97%	77%
	2.1%	109%	71%
	1.4%	118%	67%
	0.8%	134%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	383	521	510
01:00-01:59	314	338	322
02:00-02:59	277	284	250
03:00-03:59	453	334	214
04:00-04:59	1,030	456	268
05:00-05:59	2,163	749	481
06:00-06:59	3,936	1,274	707
07:00-07:59	5,925	2,010	1,161
08:00-08:59	4,536	2,850	1,830
09:00-09:59	3,818	3,737	2,892
10:00-10:59	4,014	4,446	3,832
11:00-11:59	4,377	4,728	4,343
12:00-12:59	4,609	4,795	4,584
13:00-13:59	4,774	4,624	4,374
14:00-14:59	5,213	4,517	4,350
15:00-15:59	5,943	4,390	4,366
16:00-16:59	6,723	4,244	4,203
17:00-17:59	5,916	3,836	3,662
18:00-18:59	3,842	3,208	2,966
19:00-19:59	2,690	2,510	2,259
20:00-20:59	2,121	2,062	1,638
21:00-21:59	1,610	1,757	1,144
22:00-22:59	1,089	1,282	730
23:00-23:59	643	860	440
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	33,615	0	0	33,615
Total Volume	382,000	59,813	51,526	493,339
				7%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 BTWN STH 96 & STH 15
Site #	440165
Trend ID	3 - ATR

Segment	4c
Target AADT	83,200

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	202	166	**367**	286	214	**500**	262	227	**489**
01:00-01:59	171	131	**301**	179	145	**324**	162	147	**309**
02:00-02:59	126	140	**266**	130	143	**273**	113	127	**240**
03:00-03:59	142	292	**434**	120	201	**321**	79	126	**205**
04:00-04:59	325	664	**989**	160	278	**438**	95	162	**257**
05:00-05:59	766	1,310	**2,076**	288	431	**719**	175	287	**462**
06:00-06:59	1,418	2,360	**3,777**	508	715	**1,223**	291	388	**679**
07:00-07:59	2,240	3,447	**5,686**	823	1,106	**1,929**	536	578	**1,114**
08:00-08:59	1,862	2,491	**4,353**	1,170	1,565	**2,735**	817	939	**1,756**
09:00-09:59	1,640	2,024	**3,665**	1,531	2,056	**3,587**	1,285	1,491	**2,776**
10:00-10:59	1,784	2,069	**3,852**	1,911	2,356	**4,267**	1,553	2,125	**3,678**
11:00-11:59	1,999	2,201	**4,201**	2,146	2,392	**4,538**	1,812	2,356	**4,168**
12:00-12:59	2,154	2,270	**4,424**	2,231	2,371	**4,602**	1,954	2,445	**4,399**
13:00-13:59	2,275	2,307	**4,582**	2,187	2,251	**4,438**	1,950	2,248	**4,198**
14:00-14:59	2,627	2,376	**5,003**	2,230	2,105	**4,335**	1,964	2,211	**4,175**
15:00-15:59	3,075	2,629	**5,703**	2,205	2,008	**4,213**	1,965	2,225	**4,190**
16:00-16:59	3,566	2,886	**6,452**	2,152	1,921	**4,073**	1,935	2,099	**4,034**
17:00-17:59	3,101	2,577	**5,678**	1,952	1,730	**3,682**	1,761	1,754	**3,515**
18:00-18:59	1,998	1,689	**3,687**	1,644	1,435	**3,079**	1,491	1,356	**2,847**
19:00-19:59	1,480	1,102	**2,582**	1,329	1,080	**2,409**	1,101	1,067	**2,168**
20:00-20:59	1,170	866	**2,036**	1,129	850	**1,979**	818	754	**1,572**
21:00-21:59	889	656	**1,545**	937	749	**1,686**	576	522	**1,098**
22:00-22:59	583	463	**1,046**	644	586	**1,230**	373	328	**701**
23:00-23:59	351	266	**617**	424	401	**825**	208	214	**422**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	136%	133%
0.4%	107%	103%
0.4%	103%	90%
0.6%	74%	47%
1.3%	44%	26%
2.8%	35%	22%
5.2%	32%	18%
7.8%	34%	20%
5.9%	63%	40%
5.0%	98%	76%
5.3%	111%	95%
5.7%	108%	99%
6.0%	104%	99%
6.2%	97%	92%
6.8%	87%	83%
7.8%	74%	73%
8.8%	63%	63%
7.7%	65%	62%
5.0%	84%	77%
3.5%	93%	84%
2.8%	97%	77%
2.1%	109%	71%
1.4%	118%	67%
0.8%	134%	68%

High Volume Hour Calculations

		D	
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	417	567	555
01:00-01:59	342	368	351
02:00-02:59	302	310	272
03:00-03:59	493	364	233
04:00-04:59	1,122	497	292
05:00-05:59	2,356	816	524
06:00-06:59	4,286	1,388	770
07:00-07:59	6,452	2,189	1,264
08:00-08:59	4,940	3,103	1,993
09:00-09:59	4,158	4,070	3,150
10:00-10:59	4,371	4,842	4,173
11:00-11:59	4,766	5,149	4,729
12:00-12:59	5,019	5,222	4,991
13:00-13:59	5,199	5,036	4,763
14:00-14:59	5,677	4,919	4,737
15:00-15:59	6,472	4,780	4,754
16:00-16:59	7,321	4,622	4,577
17:00-17:59	6,443	4,178	3,988
18:00-18:59	4,184	3,494	3,230
19:00-19:59	2,929	2,733	2,460
20:00-20:59	2,310	2,246	1,784
21:00-21:59	1,753	1,913	1,246
22:00-22:59	1,186	1,396	795
23:00-23:59	700	936	479
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	133,439	0	0	133,439
Total Volume	416,000	65,137	56,113	537,249
				25%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

Segment	4d
Target AADT	73,000

2018 Annual ATR Data	
Location	USH 41 BTWN STH 96 & STH 15
Site #	440165
Trend ID	3 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	202	166	**367**	286	214	**500**	262	227	**489**
01:00-01:59	171	131	**301**	179	145	**324**	162	147	**309**
02:00-02:59	126	140	**266**	130	143	**273**	113	127	**240**
03:00-03:59	142	292	**434**	120	201	**321**	79	126	**205**
04:00-04:59	325	664	**989**	160	278	**438**	95	162	**257**
05:00-05:59	766	1,310	**2,076**	288	431	**719**	175	287	**462**
06:00-06:59	1,418	2,360	**3,777**	508	715	**1,223**	291	388	**679**
07:00-07:59	2,240	3,447	**5,686**	823	1,106	**1,929**	536	578	**1,114**
08:00-08:59	1,862	2,491	**4,353**	1,170	1,565	**2,735**	817	939	**1,756**
09:00-09:59	1,640	2,024	**3,665**	1,531	2,056	**3,587**	1,285	1,491	**2,776**
10:00-10:59	1,784	2,069	**3,852**	1,911	2,356	**4,267**	1,553	2,125	**3,678**
11:00-11:59	1,999	2,201	**4,201**	2,146	2,392	**4,538**	1,812	2,356	**4,168**
12:00-12:59	2,154	2,270	**4,424**	2,231	2,371	**4,602**	1,954	2,445	**4,399**
13:00-13:59	2,275	2,307	**4,582**	2,187	2,251	**4,438**	1,950	2,248	**4,198**
14:00-14:59	2,627	2,376	**5,003**	2,230	2,105	**4,335**	1,964	2,211	**4,175**
15:00-15:59	3,075	2,629	**5,703**	2,205	2,008	**4,213**	1,965	2,225	**4,190**
16:00-16:59	3,566	2,886	**6,452**	2,152	1,921	**4,073**	1,935	2,099	**4,034**
17:00-17:59	3,101	2,577	**5,678**	1,952	1,730	**3,682**	1,761	1,754	**3,515**
18:00-18:59	1,998	1,689	**3,687**	1,644	1,435	**3,079**	1,491	1,356	**2,847**
19:00-19:59	1,480	1,102	**2,582**	1,329	1,080	**2,409**	1,101	1,067	**2,168**
20:00-20:59	1,170	866	**2,036**	1,129	850	**1,979**	818	754	**1,572**
21:00-21:59	889	656	**1,545**	937	749	**1,686**	576	522	**1,098**
22:00-22:59	583	463	**1,046**	644	586	**1,230**	373	328	**701**
23:00-23:59	351	266	**617**	424	401	**825**	208	214	**422**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.5%	136%	133%
	0.4%	107%	103%
	0.4%	103%	90%
	0.6%	74%	47%
	1.3%	44%	26%
	2.8%	35%	22%
	5.2%	32%	18%
	7.8%	34%	20%
	5.9%	63%	40%
	5.0%	98%	76%
	5.3%	111%	95%
	5.7%	108%	99%
	6.0%	104%	99%
	6.2%	97%	92%
	6.8%	87%	83%
	7.8%	74%	73%
	8.8%	63%	63%
	7.7%	65%	62%
	5.0%	84%	77%
	3.5%	93%	84%
	2.8%	97%	77%
	2.1%	109%	71%
	1.4%	118%	67%
	0.8%	134%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	366	498	487
01:00-01:59	300	323	308
02:00-02:59	265	272	239
03:00-03:59	432	320	204
04:00-04:59	984	436	256
05:00-05:59	2,067	716	460
06:00-06:59	3,761	1,218	676
07:00-07:59	5,661	1,920	1,109
08:00-08:59	4,334	2,723	1,748
09:00-09:59	3,648	3,571	2,764
10:00-10:59	3,835	4,248	3,662
11:00-11:59	4,182	4,518	4,150
12:00-12:59	4,404	4,582	4,380
13:00-13:59	4,562	4,418	4,179
14:00-14:59	4,981	4,316	4,157
15:00-15:59	5,678	4,194	4,171
16:00-16:59	6,424	4,055	4,016
17:00-17:59	5,653	3,666	3,499
18:00-18:59	3,671	3,065	2,834
19:00-19:59	2,570	2,398	2,158
20:00-20:59	2,027	1,970	1,565
21:00-21:59	1,538	1,679	1,093
22:00-22:59	1,041	1,225	698
23:00-23:59	614	821	420
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (5-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	117,080	0	0	117,080
Total Volume	365,000	57,151	49,233	471,385
				25%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	5a
Target AADT	64,850

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	**166**			**246**			**257**
01:00-01:59	133	103	**236**			**297**			**296**
02:00-02:59	145	123	**268**			**292**			**278**
03:00-03:59	131	297	**428**			**321**			**216**
04:00-04:59	299	632	**931**			**417**			**251**
05:00-05:59	897	1,317	**2,214**			**766**			**477**
06:00-06:59	1,516	2,590	**4,106**			**1,210**			**665**
07:00-07:59	2,254	3,558	**5,812**			**1,965**			**1,149**
08:00-08:59	1,836	2,456	**4,292**			**2,784**			**1,803**
09:00-09:59	1,575	2,025	**3,600**			**3,509**			**2,725**
10:00-10:59	1,596	1,993	**3,589**			**4,001**			**3,429**
11:00-11:59	1,820	2,028	**3,848**			**4,165**			**3,783**
12:00-12:59	1,868	2,144	**4,011**			**4,229**			**3,955**
13:00-13:59	2,042	2,227	**4,269**			**4,194**			**3,852**
14:00-14:59	2,431	2,242	**4,673**			**4,036**			**3,827**
15:00-15:59	2,788	2,568	**5,356**			**3,882**			**3,748**
16:00-16:59	3,568	3,080	**6,648**			**4,022**			**3,875**
17:00-17:59	3,118	2,874	**5,992**			**3,779**			**3,415**
18:00-18:59	1,930	1,932	**3,862**			**3,227**			**2,888**
19:00-19:59	1,430	1,226	**2,656**			**2,542**			**2,252**
20:00-20:59	1,275	937	**2,212**			**2,168**			**1,657**
21:00-21:59	1,155	733	**1,888**			**2,149**			**1,288**
22:00-22:59	656	446	**1,102**			**1,392**			**704**
23:00-23:59	317	240	**557**			**804**			**380**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
00:00-00:59	0.2%	148%	155%
01:00-01:59	0.3%	126%	126%
02:00-02:59	0.4%	109%	104%
03:00-03:59	0.6%	75%	51%
04:00-04:59	1.3%	45%	27%
05:00-05:59	3.0%	35%	22%
06:00-06:59	5.6%	29%	16%
07:00-07:59	8.0%	34%	20%
08:00-08:59	5.9%	65%	42%
09:00-09:59	5.0%	97%	76%
10:00-10:59	4.9%	111%	96%
11:00-11:59	5.3%	108%	98%
12:00-12:59	5.5%	105%	99%
13:00-13:59	5.9%	98%	90%
14:00-14:59	6.4%	86%	82%
15:00-15:59	7.4%	72%	70%
16:00-16:59	9.1%	60%	58%
17:00-17:59	8.2%	63%	57%
18:00-18:59	5.3%	84%	75%
19:00-19:59	3.7%	96%	85%
20:00-20:59	3.0%	98%	75%
21:00-21:59	2.6%	114%	68%
22:00-22:59	1.5%	126%	64%
23:00-23:59	0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	148	219	229
01:00-01:59	210	264	264
02:00-02:59	239	261	248
03:00-03:59	381	286	193
04:00-04:59	830	372	224
05:00-05:59	1,975	683	425
06:00-06:59	3,662	1,080	593
07:00-07:59	5,183	1,752	1,025
08:00-08:59	3,828	2,483	1,608
09:00-09:59	3,211	3,130	2,431
10:00-10:59	3,201	3,569	3,058
11:00-11:59	3,432	3,714	3,374
12:00-12:59	3,577	3,772	3,527
13:00-13:59	3,808	3,741	3,436
14:00-14:59	4,167	3,599	3,414
15:00-15:59	4,777	3,463	3,343
16:00-16:59	5,929	3,587	3,456
17:00-17:59	5,344	3,370	3,046
18:00-18:59	3,444	2,878	2,576
19:00-19:59	2,368	2,267	2,008
20:00-20:59	1,972	1,933	1,478
21:00-21:59	1,684	1,916	1,149
22:00-22:59	983	1,241	628
23:00-23:59	497	717	339
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	127,003	0	0	127,003
Total Volume	324,250	50,298	42,072	416,620
				30%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	5b
Target AADT	76,100

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	**166**			**246**			**257**
01:00-01:59	133	103	**236**			**297**			**296**
02:00-02:59	145	123	**268**			**292**			**278**
03:00-03:59	131	297	**428**			**321**			**216**
04:00-04:59	299	632	**931**			**417**			**251**
05:00-05:59	897	1,317	**2,214**			**766**			**477**
06:00-06:59	1,516	2,590	**4,106**			**1,210**			**665**
07:00-07:59	2,254	3,558	**5,812**			**1,965**			**1,149**
08:00-08:59	1,836	2,456	**4,292**			**2,784**			**1,803**
09:00-09:59	1,575	2,025	**3,600**			**3,509**			**2,725**
10:00-10:59	1,596	1,993	**3,589**			**4,001**			**3,429**
11:00-11:59	1,820	2,028	**3,848**			**4,165**			**3,783**
12:00-12:59	1,868	2,144	**4,011**			**4,229**			**3,955**
13:00-13:59	2,042	2,227	**4,269**			**4,194**			**3,852**
14:00-14:59	2,431	2,242	**4,673**			**4,036**			**3,827**
15:00-15:59	2,788	2,568	**5,356**			**3,882**			**3,748**
16:00-16:59	3,568	3,080	**6,648**			**4,022**			**3,875**
17:00-17:59	3,118	2,874	**5,992**			**3,779**			**3,415**
18:00-18:59	1,930	1,932	**3,862**			**3,227**			**2,888**
19:00-19:59	1,430	1,226	**2,656**			**2,542**			**2,252**
20:00-20:59	1,275	937	**2,212**			**2,168**			**1,657**
21:00-21:59	1,155	733	**1,888**			**2,149**			**1,288**
22:00-22:59	656	446	**1,102**			**1,392**			**704**
23:00-23:59	317	240	**557**			**804**			**380**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
8.0%	34%	20%
5.9%	65%	42%
5.0%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.5%	105%	99%
5.9%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.1%	60%	58%
8.2%	63%	57%
5.3%	84%	75%
3.7%	96%	85%
3.0%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	174	257	269
01:00-01:59	246	310	309
02:00-02:59	280	306	291
03:00-03:59	447	336	226
04:00-04:59	974	437	263
05:00-05:59	2,317	801	499
06:00-06:59	4,297	1,267	696
07:00-07:59	6,082	2,056	1,203
08:00-08:59	4,492	2,914	1,887
09:00-09:59	3,768	3,673	2,852
10:00-10:59	3,756	4,188	3,589
11:00-11:59	4,027	4,359	3,960
12:00-12:59	4,198	4,426	4,139
13:00-13:59	4,468	4,390	4,032
14:00-14:59	4,890	4,224	4,006
15:00-15:59	5,605	4,063	3,923
16:00-16:59	6,957	4,209	4,056
17:00-17:59	6,271	3,955	3,574
18:00-18:59	4,042	3,378	3,023
19:00-19:59	2,779	2,661	2,357
20:00-20:59	2,315	2,269	1,734
21:00-21:59	1,976	2,249	1,349
22:00-22:59	1,153	1,457	737
23:00-23:59	583	842	397
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	276,653	29,858	16,233	322,744
Total Volume	380,500	59,024	49,370	488,894
				66%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	5c
Target AADT	89,900

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	**166**			**246**			**257**
01:00-01:59	133	103	**236**			**297**			**296**
02:00-02:59	145	123	**268**			**292**			**278**
03:00-03:59	131	297	**428**			**321**			**216**
04:00-04:59	299	632	**931**			**417**			**251**
05:00-05:59	897	1,317	**2,214**			**766**			**477**
06:00-06:59	1,516	2,590	**4,106**			**1,210**			**665**
07:00-07:59	2,254	3,558	**5,812**			**1,965**			**1,149**
08:00-08:59	1,836	2,456	**4,292**			**2,784**			**1,803**
09:00-09:59	1,575	2,025	**3,600**			**3,509**			**2,725**
10:00-10:59	1,596	1,993	**3,589**			**4,001**			**3,429**
11:00-11:59	1,820	2,028	**3,848**			**4,165**			**3,783**
12:00-12:59	1,868	2,144	**4,011**			**4,229**			**3,955**
13:00-13:59	2,042	2,227	**4,269**			**4,194**			**3,852**
14:00-14:59	2,431	2,242	**4,673**			**4,036**			**3,827**
15:00-15:59	2,788	2,568	**5,356**			**3,882**			**3,748**
16:00-16:59	3,568	3,080	**6,648**			**4,022**			**3,875**
17:00-17:59	3,118	2,874	**5,992**			**3,779**			**3,415**
18:00-18:59	1,930	1,932	**3,862**			**3,227**			**2,888**
19:00-19:59	1,430	1,226	**2,656**			**2,542**			**2,252**
20:00-20:59	1,275	937	**2,212**			**2,168**			**1,657**
21:00-21:59	1,155	733	**1,888**			**2,149**			**1,288**
22:00-22:59	656	446	**1,102**			**1,392**			**704**
23:00-23:59	317	240	**557**			**804**			**380**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
00:00-00:59	0.2%	148%	155%
01:00-01:59	0.3%	126%	126%
02:00-02:59	0.4%	109%	104%
03:00-03:59	0.6%	75%	51%
04:00-04:59	1.3%	45%	27%
05:00-05:59	3.0%	35%	22%
06:00-06:59	5.6%	29%	16%
07:00-07:59	8.0%	34%	20%
08:00-08:59	5.9%	65%	42%
09:00-09:59	5.0%	97%	76%
10:00-10:59	4.9%	111%	96%
11:00-11:59	5.3%	108%	98%
12:00-12:59	5.5%	105%	99%
13:00-13:59	5.9%	98%	90%
14:00-14:59	6.4%	86%	82%
15:00-15:59	7.4%	72%	70%
16:00-16:59	9.1%	60%	58%
17:00-17:59	8.2%	63%	57%
18:00-18:59	5.3%	84%	75%
19:00-19:59	3.7%	96%	85%
20:00-20:59	3.0%	98%	75%
21:00-21:59	2.6%	114%	68%
22:00-22:59	1.5%	126%	64%
23:00-23:59	0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	205	304	318
01:00-01:59	291	367	366
02:00-02:59	331	361	343
03:00-03:59	529	397	267
04:00-04:59	1,151	516	310
05:00-05:59	2,737	947	590
06:00-06:59	5,077	1,497	822
07:00-07:59	7,185	2,429	1,421
08:00-08:59	5,306	3,442	2,229
09:00-09:59	4,451	4,339	3,370
10:00-10:59	4,437	4,947	4,239
11:00-11:59	4,757	5,149	4,678
12:00-12:59	4,959	5,229	4,890
13:00-13:59	5,278	5,186	4,763
14:00-14:59	5,777	4,990	4,732
15:00-15:59	6,622	4,800	4,635
16:00-16:59	8,219	4,972	4,791
17:00-17:59	7,409	4,672	4,222
18:00-18:59	4,774	3,990	3,571
19:00-19:59	3,283	3,143	2,784
20:00-20:59	2,734	2,680	2,048
21:00-21:59	2,334	2,657	1,593
22:00-22:59	1,363	1,721	871
23:00-23:59	689	994	469
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	371,262	44,284	36,951	452,497
Total Volume	449,500	69,728	58,323	577,550
				78%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	5d
Target AADT	82,100

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	**166**			**246**			**257**
01:00-01:59	133	103	**236**			**297**			**296**
02:00-02:59	145	123	**268**			**292**			**278**
03:00-03:59	131	297	**428**			**321**			**216**
04:00-04:59	299	632	**931**			**417**			**251**
05:00-05:59	897	1,317	**2,214**			**766**			**477**
06:00-06:59	1,516	2,590	**4,106**			**1,210**			**665**
07:00-07:59	2,254	3,558	**5,812**			**1,965**			**1,149**
08:00-08:59	1,836	2,456	**4,292**			**2,784**			**1,803**
09:00-09:59	1,575	2,025	**3,600**			**3,509**			**2,725**
10:00-10:59	1,596	1,993	**3,589**			**4,001**			**3,429**
11:00-11:59	1,820	2,028	**3,848**			**4,165**			**3,783**
12:00-12:59	1,868	2,144	**4,011**			**4,229**			**3,955**
13:00-13:59	2,042	2,227	**4,269**			**4,194**			**3,852**
14:00-14:59	2,431	2,242	**4,673**			**4,036**			**3,827**
15:00-15:59	2,788	2,568	**5,356**			**3,882**			**3,748**
16:00-16:59	3,568	3,080	**6,648**			**4,022**			**3,875**
17:00-17:59	3,118	2,874	**5,992**			**3,779**			**3,415**
18:00-18:59	1,930	1,932	**3,862**			**3,227**			**2,888**
19:00-19:59	1,430	1,226	**2,656**			**2,542**			**2,252**
20:00-20:59	1,275	937	**2,212**			**2,168**			**1,657**
21:00-21:59	1,155	733	**1,888**			**2,149**			**1,288**
22:00-22:59	656	446	**1,102**			**1,392**			**704**
23:00-23:59	317	240	**557**			**804**			**380**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
00:00-00:59	0.2%	148%	155%
01:00-01:59	0.3%	126%	126%
02:00-02:59	0.4%	109%	104%
03:00-03:59	0.6%	75%	51%
04:00-04:59	1.3%	45%	27%
05:00-05:59	3.0%	35%	22%
06:00-06:59	5.6%	29%	16%
07:00-07:59	8.0%	34%	20%
08:00-08:59	5.9%	65%	42%
09:00-09:59	5.0%	97%	76%
10:00-10:59	4.9%	111%	96%
11:00-11:59	5.3%	108%	98%
12:00-12:59	5.5%	105%	99%
13:00-13:59	5.9%	98%	90%
14:00-14:59	6.4%	86%	82%
15:00-15:59	7.4%	72%	70%
16:00-16:59	9.1%	60%	58%
17:00-17:59	8.2%	63%	57%
18:00-18:59	5.3%	84%	75%
19:00-19:59	3.7%	96%	85%
20:00-20:59	3.0%	98%	75%
21:00-21:59	2.6%	114%	68%
22:00-22:59	1.5%	126%	64%
23:00-23:59	0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	187	277	290
01:00-01:59	266	335	334
02:00-02:59	302	330	314
03:00-03:59	483	362	244
04:00-04:59	1,051	471	284
05:00-05:59	2,500	864	539
06:00-06:59	4,636	1,367	751
07:00-07:59	6,562	2,218	1,298
08:00-08:59	4,846	3,143	2,035
09:00-09:59	4,065	3,962	3,077
10:00-10:59	4,052	4,518	3,872
11:00-11:59	4,344	4,702	4,272
12:00-12:59	4,529	4,775	4,466
13:00-13:59	4,820	4,736	4,350
14:00-14:59	5,276	4,557	4,322
15:00-15:59	6,047	4,384	4,233
16:00-16:59	7,506	4,541	4,376
17:00-17:59	6,766	4,267	3,856
18:00-18:59	4,360	3,644	3,261
19:00-19:59	2,998	2,870	2,542
20:00-20:59	2,497	2,448	1,871
21:00-21:59	2,132	2,426	1,455
22:00-22:59	1,244	1,572	795
23:00-23:59	629	908	429
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	339,050	36,479	26,017	401,547
Total Volume	410,500	63,678	53,263	527,440
				76%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	6a
Target AADT	73,350

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	**178**			**263**			**275**
01:00-01:59	136	103	**238**			**300**			**299**
02:00-02:59	142	125	**267**			**291**			**277**
03:00-03:59	134	281	**414**			**311**			**209**
04:00-04:59	375	617	**992**			**445**			**268**
05:00-05:59	1,078	1,263	**2,341**			**809**			**504**
06:00-06:59	1,768	2,523	**4,291**			**1,265**			**695**
07:00-07:59	2,669	3,407	**6,076**			**2,054**			**1,201**
08:00-08:59	1,970	2,440	**4,409**			**2,860**			**1,852**
09:00-09:59	1,710	2,049	**3,759**			**3,664**			**2,845**
10:00-10:59	1,707	2,072	**3,779**			**4,213**			**3,610**
11:00-11:59	1,910	2,126	**4,036**			**4,368**			**3,968**
12:00-12:59	2,019	2,248	**4,267**			**4,498**			**4,207**
13:00-13:59	2,144	2,270	**4,414**			**4,336**			**3,983**
14:00-14:59	2,473	2,437	**4,910**			**4,241**			**4,022**
15:00-15:59	2,868	2,813	**5,680**			**4,118**			**3,976**
16:00-16:59	3,562	3,342	**6,903**			**4,176**			**4,024**
17:00-17:59	3,266	3,144	**6,410**			**4,043**			**3,653**
18:00-18:59	2,006	2,124	**4,129**			**3,451**			**3,088**
19:00-19:59	1,489	1,346	**2,835**			**2,713**			**2,403**
20:00-20:59	1,311	1,077	**2,388**			**2,341**			**1,789**
21:00-21:59	1,176	828	**2,004**			**2,281**			**1,368**
22:00-22:59	661	500	**1,161**			**1,466**			**742**
23:00-23:59	313	267	**580**			**837**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
00:00-00:59	0.2%	148%	155%
01:00-01:59	0.3%	126%	126%
02:00-02:59	0.3%	109%	104%
03:00-03:59	0.5%	75%	51%
04:00-04:59	1.3%	45%	27%
05:00-05:59	3.1%	35%	22%
06:00-06:59	5.6%	29%	16%
07:00-07:59	7.9%	34%	20%
08:00-08:59	5.8%	65%	42%
09:00-09:59	4.9%	97%	76%
10:00-10:59	4.9%	111%	96%
11:00-11:59	5.3%	108%	98%
12:00-12:59	5.6%	105%	99%
13:00-13:59	5.8%	98%	90%
14:00-14:59	6.4%	86%	82%
15:00-15:59	7.4%	72%	70%
16:00-16:59	9.0%	60%	58%
17:00-17:59	8.4%	63%	57%
18:00-18:59	5.4%	84%	75%
19:00-19:59	3.7%	96%	85%
20:00-20:59	3.1%	98%	75%
21:00-21:59	2.6%	114%	68%
22:00-22:59	1.5%	126%	64%
23:00-23:59	0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	170	252	264
01:00-01:59	228	288	287
02:00-02:59	256	279	266
03:00-03:59	397	298	201
04:00-04:59	952	427	257
05:00-05:59	2,245	776	484
06:00-06:59	4,116	1,213	666
07:00-07:59	5,829	1,971	1,153
08:00-08:59	4,230	2,744	1,777
09:00-09:59	3,606	3,515	2,730
10:00-10:59	3,625	4,042	3,464
11:00-11:59	3,872	4,191	3,807
12:00-12:59	4,093	4,315	4,036
13:00-13:59	4,235	4,160	3,821
14:00-14:59	4,711	4,068	3,859
15:00-15:59	5,449	3,950	3,814
16:00-16:59	6,623	4,007	3,861
17:00-17:59	6,150	3,878	3,505
18:00-18:59	3,961	3,310	2,963
19:00-19:59	2,719	2,603	2,306
20:00-20:59	2,291	2,246	1,716
21:00-21:59	1,923	2,188	1,312
22:00-22:59	1,113	1,406	712
23:00-23:59	556	803	379
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	227,177	24,783	4,036	255,996
Total Volume	366,750	56,931	47,636	471,317
				54%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	6b
Target AADT	81,900

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	**178**			**263**			**275**
01:00-01:59	136	103	**238**			**300**			**299**
02:00-02:59	142	125	**267**			**291**			**277**
03:00-03:59	134	281	**414**			**311**			**209**
04:00-04:59	375	617	**992**			**445**			**268**
05:00-05:59	1,078	1,263	**2,341**			**809**			**504**
06:00-06:59	1,768	2,523	**4,291**			**1,265**			**695**
07:00-07:59	2,669	3,407	**6,076**			**2,054**			**1,201**
08:00-08:59	1,970	2,440	**4,409**			**2,860**			**1,852**
09:00-09:59	1,710	2,049	**3,759**			**3,664**			**2,845**
10:00-10:59	1,707	2,072	**3,779**			**4,213**			**3,610**
11:00-11:59	1,910	2,126	**4,036**			**4,368**			**3,968**
12:00-12:59	2,019	2,248	**4,267**			**4,498**			**4,207**
13:00-13:59	2,144	2,270	**4,414**			**4,336**			**3,983**
14:00-14:59	2,473	2,437	**4,910**			**4,241**			**4,022**
15:00-15:59	2,868	2,813	**5,680**			**4,118**			**3,976**
16:00-16:59	3,562	3,342	**6,903**			**4,176**			**4,024**
17:00-17:59	3,266	3,144	**6,410**			**4,043**			**3,653**
18:00-18:59	2,006	2,124	**4,129**			**3,451**			**3,088**
19:00-19:59	1,489	1,346	**2,835**			**2,713**			**2,403**
20:00-20:59	1,311	1,077	**2,388**			**2,341**			**1,789**
21:00-21:59	1,176	828	**2,004**			**2,281**			**1,368**
22:00-22:59	661	500	**1,161**			**1,466**			**742**
23:00-23:59	313	267	**580**			**837**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	190	281	294
01:00-01:59	255	321	320
02:00-02:59	285	312	296
03:00-03:59	443	333	224
04:00-04:59	1,063	477	287
05:00-05:59	2,507	867	540
06:00-06:59	4,596	1,355	744
07:00-07:59	6,509	2,200	1,287
08:00-08:59	4,723	3,064	1,984
09:00-09:59	4,026	3,925	3,048
10:00-10:59	4,048	4,513	3,867
11:00-11:59	4,323	4,679	4,251
12:00-12:59	4,570	4,818	4,506
13:00-13:59	4,728	4,645	4,267
14:00-14:59	5,260	4,543	4,308
15:00-15:59	6,084	4,411	4,259
16:00-16:59	7,395	4,474	4,311
17:00-17:59	6,866	4,330	3,913
18:00-18:59	4,423	3,696	3,308
19:00-19:59	3,036	2,907	2,574
20:00-20:59	2,558	2,507	1,916
21:00-21:59	2,147	2,443	1,465
22:00-22:59	1,243	1,570	795
23:00-23:59	621	896	423
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	337,756	36,413	25,902	400,070
Total Volume	409,500	63,567	53,189	526,255
				76%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	6c
Target AADT	90,600

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	**178**			**263**			**275**
01:00-01:59	136	103	**238**			**300**			**299**
02:00-02:59	142	125	**267**			**291**			**277**
03:00-03:59	134	281	**414**			**311**			**209**
04:00-04:59	375	617	**992**			**445**			**268**
05:00-05:59	1,078	1,263	**2,341**			**809**			**504**
06:00-06:59	1,768	2,523	**4,291**			**1,265**			**695**
07:00-07:59	2,669	3,407	**6,076**			**2,054**			**1,201**
08:00-08:59	1,970	2,440	**4,409**			**2,860**			**1,852**
09:00-09:59	1,710	2,049	**3,759**			**3,664**			**2,845**
10:00-10:59	1,707	2,072	**3,779**			**4,213**			**3,610**
11:00-11:59	1,910	2,126	**4,036**			**4,368**			**3,968**
12:00-12:59	2,019	2,248	**4,267**			**4,498**			**4,207**
13:00-13:59	2,144	2,270	**4,414**			**4,336**			**3,983**
14:00-14:59	2,473	2,437	**4,910**			**4,241**			**4,022**
15:00-15:59	2,868	2,813	**5,680**			**4,118**			**3,976**
16:00-16:59	3,562	3,342	**6,903**			**4,176**			**4,024**
17:00-17:59	3,266	3,144	**6,410**			**4,043**			**3,653**
18:00-18:59	2,006	2,124	**4,129**			**3,451**			**3,088**
19:00-19:59	1,489	1,346	**2,835**			**2,713**			**2,403**
20:00-20:59	1,311	1,077	**2,388**			**2,341**			**1,789**
21:00-21:59	1,176	828	**2,004**			**2,281**			**1,368**
22:00-22:59	661	500	**1,161**			**1,466**			**742**
23:00-23:59	313	267	**580**			**837**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	210	311	326
01:00-01:59	282	355	354
02:00-02:59	316	345	328
03:00-03:59	491	368	248
04:00-04:59	1,176	527	317
05:00-05:59	2,773	959	598
06:00-06:59	5,084	1,499	823
07:00-07:59	7,200	2,434	1,424
08:00-08:59	5,225	3,389	2,194
09:00-09:59	4,454	4,342	3,372
10:00-10:59	4,478	4,992	4,278
11:00-11:59	4,782	5,176	4,702
12:00-12:59	5,056	5,330	4,985
13:00-13:59	5,231	5,139	4,720
14:00-14:59	5,818	5,025	4,766
15:00-15:59	6,731	4,879	4,711
16:00-16:59	8,180	4,949	4,769
17:00-17:59	7,596	4,790	4,329
18:00-18:59	4,893	4,089	3,659
19:00-19:59	3,359	3,215	2,848
20:00-20:59	2,830	2,774	2,120
21:00-21:59	2,375	2,703	1,621
22:00-22:59	1,375	1,737	879
23:00-23:59	687	991	468
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	373,634	48,712	37,260	459,607
Total Volume	453,000	70,319	58,839	582,158
				79%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	6d
Target AADT	80,750

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	**178**			**263**			**275**
01:00-01:59	136	103	**238**			**300**			**299**
02:00-02:59	142	125	**267**			**291**			**277**
03:00-03:59	134	281	**414**			**311**			**209**
04:00-04:59	375	617	**992**			**445**			**268**
05:00-05:59	1,078	1,263	**2,341**			**809**			**504**
06:00-06:59	1,768	2,523	**4,291**			**1,265**			**695**
07:00-07:59	2,669	3,407	**6,076**			**2,054**			**1,201**
08:00-08:59	1,970	2,440	**4,409**			**2,860**			**1,852**
09:00-09:59	1,710	2,049	**3,759**			**3,664**			**2,845**
10:00-10:59	1,707	2,072	**3,779**			**4,213**			**3,610**
11:00-11:59	1,910	2,126	**4,036**			**4,368**			**3,968**
12:00-12:59	2,019	2,248	**4,267**			**4,498**			**4,207**
13:00-13:59	2,144	2,270	**4,414**			**4,336**			**3,983**
14:00-14:59	2,473	2,437	**4,910**			**4,241**			**4,022**
15:00-15:59	2,868	2,813	**5,680**			**4,118**			**3,976**
16:00-16:59	3,562	3,342	**6,903**			**4,176**			**4,024**
17:00-17:59	3,266	3,144	**6,410**			**4,043**			**3,653**
18:00-18:59	2,006	2,124	**4,129**			**3,451**			**3,088**
19:00-19:59	1,489	1,346	**2,835**			**2,713**			**2,403**
20:00-20:59	1,311	1,077	**2,388**			**2,341**			**1,789**
21:00-21:59	1,176	828	**2,004**			**2,281**			**1,368**
22:00-22:59	661	500	**1,161**			**1,466**			**742**
23:00-23:59	313	267	**580**			**837**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	187	278	290
01:00-01:59	251	317	316
02:00-02:59	281	308	292
03:00-03:59	437	328	221
04:00-04:59	1,048	470	283
05:00-05:59	2,472	855	533
06:00-06:59	4,531	1,336	734
07:00-07:59	6,417	2,169	1,269
08:00-08:59	4,657	3,021	1,956
09:00-09:59	3,970	3,870	3,005
10:00-10:59	3,991	4,449	3,813
11:00-11:59	4,262	4,613	4,191
12:00-12:59	4,506	4,751	4,443
13:00-13:59	4,662	4,580	4,207
14:00-14:59	5,186	4,479	4,248
15:00-15:59	5,999	4,349	4,199
16:00-16:59	7,291	4,411	4,250
17:00-17:59	6,770	4,270	3,858
18:00-18:59	4,361	3,644	3,261
19:00-19:59	2,994	2,866	2,538
20:00-20:59	2,522	2,472	1,889
21:00-21:59	2,117	2,409	1,444
22:00-22:59	1,226	1,548	783
23:00-23:59	612	884	417
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	293,211	35,902	25,538	354,651
Total Volume	403,750	62,674	52,442	518,866
				68%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 EAST OF CTH E APPLETON
Site #	441218
Trend ID	4 - ATR

Segment	7a
Target AADT	69,950

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	174	178	**353**	262	260	**522**	261	285	**546**
01:00-01:59	146	125	**272**	166	176	**342**	160	181	**341**
02:00-02:59	132	144	**275**	137	164	**301**	134	152	**286**
03:00-03:59	137	276	**413**	114	196	**310**	87	122	**209**
04:00-04:59	375	593	**968**	180	254	**434**	113	148	**261**
05:00-05:59	977	1,195	**2,172**	330	421	**751**	207	261	**468**
06:00-06:59	1,651	2,413	**4,064**	528	670	**1,198**	292	366	**658**
07:00-07:59	2,365	3,380	**5,745**	814	1,128	**1,942**	479	657	**1,136**
08:00-08:59	1,825	2,418	**4,243**	1,184	1,568	**2,752**	818	964	**1,782**
09:00-09:59	1,653	1,979	**3,633**	1,558	1,983	**3,541**	1,281	1,469	**2,750**
10:00-10:59	1,769	1,987	**3,756**	1,905	2,283	**4,188**	1,619	1,970	**3,589**
11:00-11:59	1,971	2,095	**4,067**	2,089	2,313	**4,402**	1,855	2,144	**3,999**
12:00-12:59	2,071	2,192	**4,263**	2,190	2,304	**4,494**	2,018	2,185	**4,203**
13:00-13:59	2,158	2,237	**4,395**	2,120	2,198	**4,318**	1,891	2,075	**3,966**
14:00-14:59	2,501	2,348	**4,849**	2,147	2,041	**4,188**	1,911	2,061	**3,972**
15:00-15:59	3,063	2,659	**5,722**	2,142	2,006	**4,148**	1,917	2,088	**4,005**
16:00-16:59	3,610	2,974	**6,584**	2,102	1,881	**3,983**	1,895	1,943	**3,838**
17:00-17:59	3,091	2,721	**5,811**	1,953	1,712	**3,665**	1,668	1,644	**3,312**
18:00-18:59	1,918	1,736	**3,654**	1,607	1,447	**3,054**	1,392	1,341	**2,733**
19:00-19:59	1,353	1,142	**2,496**	1,286	1,103	**2,389**	1,055	1,061	**2,116**
20:00-20:59	1,126	909	**2,034**	1,085	909	**1,994**	747	777	**1,524**
21:00-21:59	838	714	**1,552**	915	851	**1,766**	527	532	**1,059**
22:00-22:59	537	506	**1,044**	643	675	**1,318**	334	333	**667**
23:00-23:59	306	316	**622**	406	492	**898**	189	235	**424**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.5%	148%	155%
	0.4%	126%	126%
	0.4%	109%	104%
	0.6%	75%	51%
	1.3%	45%	27%
	3.0%	35%	22%
	5.6%	29%	16%
	7.9%	34%	20%
	5.8%	65%	42%
	5.0%	97%	76%
	5.1%	111%	96%
	5.6%	108%	98%
	5.8%	105%	99%
	6.0%	98%	90%
	6.6%	86%	82%
	7.8%	72%	70%
	9.0%	60%	58%
	8.0%	63%	57%
	5.0%	84%	75%
	3.4%	96%	85%
	2.8%	98%	75%
	2.1%	114%	68%
	1.4%	126%	64%
	0.9%	144%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	338	500	523
01:00-01:59	260	328	327
02:00-02:59	264	288	274
03:00-03:59	396	297	200
04:00-04:59	928	416	250
05:00-05:59	2,082	720	449
06:00-06:59	3,895	1,148	631
07:00-07:59	5,506	1,861	1,089
08:00-08:59	4,066	2,638	1,708
09:00-09:59	3,482	3,394	2,636
10:00-10:59	3,600	4,014	3,440
11:00-11:59	3,898	4,219	3,833
12:00-12:59	4,085	4,307	4,028
13:00-13:59	4,212	4,138	3,801
14:00-14:59	4,647	4,014	3,807
15:00-15:59	5,484	3,975	3,838
16:00-16:59	6,310	3,817	3,678
17:00-17:59	5,570	3,513	3,174
18:00-18:59	3,502	2,927	2,619
19:00-19:59	2,392	2,290	2,028
20:00-20:59	1,950	1,911	1,461
21:00-21:59	1,487	1,693	1,015
22:00-22:59	1,000	1,263	639
23:00-23:59	596	861	406
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	199,404	20,692	4,028	224,124
Total Volume	349,750	54,532	45,854	450,136
				50%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 EAST OF CTH E APPLETON
Site #	441218
Trend ID	4 - ATR

Segment	7b
Target AADT	80,350

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	174	178	**353**	262	260	**522**	261	285	**546**
01:00-01:59	146	125	**272**	166	176	**342**	160	181	**341**
02:00-02:59	132	144	**275**	137	164	**301**	134	152	**286**
03:00-03:59	137	276	**413**	114	196	**310**	87	122	**209**
04:00-04:59	375	593	**968**	180	254	**434**	113	148	**261**
05:00-05:59	977	1,195	**2,172**	330	421	**751**	207	261	**468**
06:00-06:59	1,651	2,413	**4,064**	528	670	**1,198**	292	366	**658**
07:00-07:59	2,365	3,380	**5,745**	814	1,128	**1,942**	479	657	**1,136**
08:00-08:59	1,825	2,418	**4,243**	1,184	1,568	**2,752**	818	964	**1,782**
09:00-09:59	1,653	1,979	**3,633**	1,558	1,983	**3,541**	1,281	1,469	**2,750**
10:00-10:59	1,769	1,987	**3,756**	1,905	2,283	**4,188**	1,619	1,970	**3,589**
11:00-11:59	1,971	2,095	**4,067**	2,089	2,313	**4,402**	1,855	2,144	**3,999**
12:00-12:59	2,071	2,192	**4,263**	2,190	2,304	**4,494**	2,018	2,185	**4,203**
13:00-13:59	2,158	2,237	**4,395**	2,120	2,198	**4,318**	1,891	2,075	**3,966**
14:00-14:59	2,501	2,348	**4,849**	2,147	2,041	**4,188**	1,911	2,061	**3,972**
15:00-15:59	3,063	2,659	**5,722**	2,142	2,006	**4,148**	1,917	2,088	**4,005**
16:00-16:59	3,610	2,974	**6,584**	2,102	1,881	**3,983**	1,895	1,943	**3,838**
17:00-17:59	3,091	2,721	**5,811**	1,953	1,712	**3,665**	1,668	1,644	**3,312**
18:00-18:59	1,918	1,736	**3,654**	1,607	1,447	**3,054**	1,392	1,341	**2,733**
19:00-19:59	1,353	1,142	**2,496**	1,286	1,103	**2,389**	1,055	1,061	**2,116**
20:00-20:59	1,126	909	**2,034**	1,085	909	**1,994**	747	777	**1,524**
21:00-21:59	838	714	**1,552**	915	851	**1,766**	527	532	**1,059**
22:00-22:59	537	506	**1,044**	643	675	**1,318**	334	333	**667**
23:00-23:59	306	316	**622**	406	492	**898**	189	235	**424**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	148%	155%
0.4%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
5.0%	97%	76%
5.1%	111%	96%
5.6%	108%	98%
5.8%	105%	99%
6.0%	98%	90%
6.6%	86%	82%
7.8%	72%	70%
9.0%	60%	58%
8.0%	63%	57%
5.0%	84%	75%
3.4%	96%	85%
2.8%	98%	75%
2.1%	114%	68%
1.4%	126%	64%
0.9%	144%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	388	575	601
01:00-01:59	299	377	375
02:00-02:59	303	331	315
03:00-03:59	455	341	230
04:00-04:59	1,065	478	287
05:00-05:59	2,391	827	515
06:00-06:59	4,474	1,319	724
07:00-07:59	6,324	2,138	1,251
08:00-08:59	4,671	3,030	1,962
09:00-09:59	3,999	3,898	3,027
10:00-10:59	4,135	4,611	3,951
11:00-11:59	4,477	4,846	4,403
12:00-12:59	4,693	4,947	4,627
13:00-13:59	4,839	4,754	4,366
14:00-14:59	5,338	4,611	4,373
15:00-15:59	6,299	4,567	4,409
16:00-16:59	7,248	4,385	4,225
17:00-17:59	6,398	4,035	3,646
18:00-18:59	4,023	3,362	3,009
19:00-19:59	2,747	2,630	2,330
20:00-20:59	2,240	2,195	1,678
21:00-21:59	1,708	1,944	1,166
22:00-22:59	1,149	1,451	734
23:00-23:59	685	989	467
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	314,599	36,755	26,403	377,757
Total Volume	401,750	62,639	52,672	517,061
				73%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 EAST OF CTH E APPLETON
Site #	441218
Trend ID	4 - ATR

Segment	7c
Target AADT	93,400

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	174	178	**353**	262	260	**522**	261	285	**546**
01:00-01:59	146	125	**272**	166	176	**342**	160	181	**341**
02:00-02:59	132	144	**275**	137	164	**301**	134	152	**286**
03:00-03:59	137	276	**413**	114	196	**310**	87	122	**209**
04:00-04:59	375	593	**968**	180	254	**434**	113	148	**261**
05:00-05:59	977	1,195	**2,172**	330	421	**751**	207	261	**468**
06:00-06:59	1,651	2,413	**4,064**	528	670	**1,198**	292	366	**658**
07:00-07:59	2,365	3,380	**5,745**	814	1,128	**1,942**	479	657	**1,136**
08:00-08:59	1,825	2,418	**4,243**	1,184	1,568	**2,752**	818	964	**1,782**
09:00-09:59	1,653	1,979	**3,633**	1,558	1,983	**3,541**	1,281	1,469	**2,750**
10:00-10:59	1,769	1,987	**3,756**	1,905	2,283	**4,188**	1,619	1,970	**3,589**
11:00-11:59	1,971	2,095	**4,067**	2,089	2,313	**4,402**	1,855	2,144	**3,999**
12:00-12:59	2,071	2,192	**4,263**	2,190	2,304	**4,494**	2,018	2,185	**4,203**
13:00-13:59	2,158	2,237	**4,395**	2,120	2,198	**4,318**	1,891	2,075	**3,966**
14:00-14:59	2,501	2,348	**4,849**	2,147	2,041	**4,188**	1,911	2,061	**3,972**
15:00-15:59	3,063	2,659	**5,722**	2,142	2,006	**4,148**	1,917	2,088	**4,005**
16:00-16:59	3,610	2,974	**6,584**	2,102	1,881	**3,983**	1,895	1,943	**3,838**
17:00-17:59	3,091	2,721	**5,811**	1,953	1,712	**3,665**	1,668	1,644	**3,312**
18:00-18:59	1,918	1,736	**3,654**	1,607	1,447	**3,054**	1,392	1,341	**2,733**
19:00-19:59	1,353	1,142	**2,496**	1,286	1,103	**2,389**	1,055	1,061	**2,116**
20:00-20:59	1,126	909	**2,034**	1,085	909	**1,994**	747	777	**1,524**
21:00-21:59	838	714	**1,552**	915	851	**1,766**	527	532	**1,059**
22:00-22:59	537	506	**1,044**	643	675	**1,318**	334	333	**667**
23:00-23:59	306	316	**622**	406	492	**898**	189	235	**424**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	148%	155%
0.4%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
5.0%	97%	76%
5.1%	111%	96%
5.6%	108%	98%
5.8%	105%	99%
6.0%	98%	90%
6.6%	86%	82%
7.8%	72%	70%
9.0%	60%	58%
8.0%	63%	57%
5.0%	84%	75%
3.4%	96%	85%
2.8%	98%	75%
2.1%	114%	68%
1.4%	126%	64%
0.9%	144%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	451	668	699
01:00-01:59	348	438	436
02:00-02:59	352	385	366
03:00-03:59	529	397	267
04:00-04:59	1,239	555	334
05:00-05:59	2,780	961	599
06:00-06:59	5,201	1,533	842
07:00-07:59	7,352	2,485	1,454
08:00-08:59	5,429	3,522	2,280
09:00-09:59	4,649	4,531	3,519
10:00-10:59	4,807	5,359	4,593
11:00-11:59	5,204	5,633	5,118
12:00-12:59	5,455	5,751	5,379
13:00-13:59	5,625	5,526	5,075
14:00-14:59	6,205	5,359	5,083
15:00-15:59	7,323	5,308	5,125
16:00-16:59	8,425	5,097	4,912
17:00-17:59	7,437	4,690	4,238
18:00-18:59	4,677	3,908	3,497
19:00-19:59	3,194	3,057	2,708
20:00-20:59	2,603	2,552	1,950
21:00-21:59	1,986	2,260	1,355
22:00-22:59	1,336	1,687	854
23:00-23:59	796	1,149	543
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	388,938	47,256	39,523	475,716
Total Volume	467,000	72,813	61,227	601,040
				79%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	7d
Target AADT	74,650

2018 Annual ATR Data	
Location	USH 41 EAST OF CTH E APPLETON
Site #	441218
Trend ID	4 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	174	178	**353**	262	260	**522**	261	285	**546**
01:00-01:59	146	125	**272**	166	176	**342**	160	181	**341**
02:00-02:59	132	144	**275**	137	164	**301**	134	152	**286**
03:00-03:59	137	276	**413**	114	196	**310**	87	122	**209**
04:00-04:59	375	593	**968**	180	254	**434**	113	148	**261**
05:00-05:59	977	1,195	**2,172**	330	421	**751**	207	261	**468**
06:00-06:59	1,651	2,413	**4,064**	528	670	**1,198**	292	366	**658**
07:00-07:59	2,365	3,380	**5,745**	814	1,128	**1,942**	479	657	**1,136**
08:00-08:59	1,825	2,418	**4,243**	1,184	1,568	**2,752**	818	964	**1,782**
09:00-09:59	1,653	1,979	**3,633**	1,558	1,983	**3,541**	1,281	1,469	**2,750**
10:00-10:59	1,769	1,987	**3,756**	1,905	2,283	**4,188**	1,619	1,970	**3,589**
11:00-11:59	1,971	2,095	**4,067**	2,089	2,313	**4,402**	1,855	2,144	**3,999**
12:00-12:59	2,071	2,192	**4,263**	2,190	2,304	**4,494**	2,018	2,185	**4,203**
13:00-13:59	2,158	2,237	**4,395**	2,120	2,198	**4,318**	1,891	2,075	**3,966**
14:00-14:59	2,501	2,348	**4,849**	2,147	2,041	**4,188**	1,911	2,061	**3,972**
15:00-15:59	3,063	2,659	**5,722**	2,142	2,006	**4,148**	1,917	2,088	**4,005**
16:00-16:59	3,610	2,974	**6,584**	2,102	1,881	**3,983**	1,895	1,943	**3,838**
17:00-17:59	3,091	2,721	**5,811**	1,953	1,712	**3,665**	1,668	1,644	**3,312**
18:00-18:59	1,918	1,736	**3,654**	1,607	1,447	**3,054**	1,392	1,341	**2,733**
19:00-19:59	1,353	1,142	**2,496**	1,286	1,103	**2,389**	1,055	1,061	**2,116**
20:00-20:59	1,126	909	**2,034**	1,085	909	**1,994**	747	777	**1,524**
21:00-21:59	838	714	**1,552**	915	851	**1,766**	527	532	**1,059**
22:00-22:59	537	506	**1,044**	643	675	**1,318**	334	333	**667**
23:00-23:59	306	316	**622**	406	492	**898**	189	235	**424**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	148%	155%
0.4%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
5.0%	97%	76%
5.1%	111%	96%
5.6%	108%	98%
5.8%	105%	99%
6.0%	98%	90%
6.6%	86%	82%
7.8%	72%	70%
9.0%	60%	58%
8.0%	63%	57%
5.0%	84%	75%
3.4%	96%	85%
2.8%	98%	75%
2.1%	114%	68%
1.4%	126%	64%
0.9%	144%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	361	534	558
01:00-01:59	278	350	349
02:00-02:59	282	308	293
03:00-03:59	423	317	214
04:00-04:59	990	444	267
05:00-05:59	2,222	768	479
06:00-06:59	4,157	1,225	673
07:00-07:59	5,876	1,986	1,162
08:00-08:59	4,339	2,815	1,823
09:00-09:59	3,715	3,622	2,813
10:00-10:59	3,842	4,284	3,671
11:00-11:59	4,160	4,502	4,090
12:00-12:59	4,360	4,597	4,299
13:00-13:59	4,495	4,416	4,056
14:00-14:59	4,960	4,284	4,063
15:00-15:59	5,853	4,243	4,096
16:00-16:59	6,734	4,074	3,926
17:00-17:59	5,944	3,749	3,388
18:00-18:59	3,738	3,124	2,795
19:00-19:59	2,553	2,443	2,164
20:00-20:59	2,081	2,039	1,559
21:00-21:59	1,587	1,806	1,083
22:00-22:59	1,067	1,348	682
23:00-23:59	636	918	434
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	254,383	30,399	20,605	305,387
Total Volume	373,250	58,196	48,935	480,381
				64%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	8a
Target AADT	58,250

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	**338**	253	259	**512**	266	281	**547**
01:00-01:59	133	121	**254**	161	174	**335**	173	181	**354**
02:00-02:59	128	140	**268**	146	162	**308**	149	150	**299**
03:00-03:59	147	239	**387**	119	176	**295**	93	119	**212**
04:00-04:59	406	475	**881**	192	219	**411**	119	131	**250**
05:00-05:59	1,120	1,081	**2,201**	373	379	**752**	244	230	**474**
06:00-06:59	1,883	2,125	**4,008**	536	613	**1,149**	313	347	**660**
07:00-07:59	2,547	2,891	**5,439**	792	947	**1,739**	484	527	**1,011**
08:00-08:59	1,796	1,974	**3,771**	1,102	1,269	**2,371**	768	778	**1,546**
09:00-09:59	1,590	1,646	**3,236**	1,458	1,569	**3,027**	1,195	1,166	**2,361**
10:00-10:59	1,624	1,650	**3,274**	1,758	1,784	**3,542**	1,427	1,548	**2,975**
11:00-11:59	1,762	1,749	**3,511**	1,901	1,856	**3,757**	1,595	1,772	**3,367**
12:00-12:59	1,852	1,833	**3,684**	1,938	1,854	**3,792**	1,690	1,822	**3,512**
13:00-13:59	1,950	1,882	**3,832**	1,871	1,790	**3,661**	1,631	1,746	**3,377**
14:00-14:59	2,212	2,070	**4,281**	1,863	1,703	**3,566**	1,637	1,775	**3,412**
15:00-15:59	2,618	2,408	**5,026**	1,861	1,693	**3,554**	1,636	1,838	**3,474**
16:00-16:59	3,120	2,856	**5,976**	1,844	1,604	**3,448**	1,632	1,748	**3,380**
17:00-17:59	2,702	2,555	**5,256**	1,733	1,494	**3,227**	1,464	1,542	**3,006**
18:00-18:59	1,631	1,506	**3,137**	1,398	1,293	**2,691**	1,214	1,275	**2,489**
19:00-19:59	1,147	954	**2,100**	1,117	979	**2,096**	946	980	**1,926**
20:00-20:59	942	785	**1,727**	957	834	**1,791**	714	724	**1,438**
21:00-21:59	731	629	**1,360**	823	820	**1,643**	522	506	**1,028**
22:00-22:59	488	483	**971**	611	689	**1,300**	325	334	**659**
23:00-23:59	294	310	**604**	393	488	**881**	189	261	**450**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	301	455	486
01:00-01:59	226	298	315
02:00-02:59	238	274	266
03:00-03:59	344	262	188
04:00-04:59	783	365	222
05:00-05:59	1,956	669	421
06:00-06:59	3,563	1,021	587
07:00-07:59	4,835	1,546	899
08:00-08:59	3,352	2,108	1,374
09:00-09:59	2,877	2,691	2,099
10:00-10:59	2,910	3,149	2,645
11:00-11:59	3,121	3,340	2,993
12:00-12:59	3,275	3,371	3,122
13:00-13:59	3,407	3,255	3,002
14:00-14:59	3,806	3,170	3,033
15:00-15:59	4,468	3,160	3,088
16:00-16:59	5,313	3,065	3,005
17:00-17:59	4,673	2,869	2,672
18:00-18:59	2,789	2,392	2,213
19:00-19:59	1,867	1,863	1,712
20:00-20:59	1,535	1,592	1,278
21:00-21:59	1,209	1,461	914
22:00-22:59	863	1,156	586
23:00-23:59	537	783	400
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	96,446	0	0	96,446
Total Volume	291,250	44,316	37,523	373,089
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

Segment	8b
Target AADT	68,850

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	**338**	253	259	**512**	266	281	**547**
01:00-01:59	133	121	**254**	161	174	**335**	173	181	**354**
02:00-02:59	128	140	**268**	146	162	**308**	149	150	**299**
03:00-03:59	147	239	**387**	119	176	**295**	93	119	**212**
04:00-04:59	406	475	**881**	192	219	**411**	119	131	**250**
05:00-05:59	1,120	1,081	**2,201**	373	379	**752**	244	230	**474**
06:00-06:59	1,883	2,125	**4,008**	536	613	**1,149**	313	347	**660**
07:00-07:59	2,547	2,891	**5,439**	792	947	**1,739**	484	527	**1,011**
08:00-08:59	1,796	1,974	**3,771**	1,102	1,269	**2,371**	768	778	**1,546**
09:00-09:59	1,590	1,646	**3,236**	1,458	1,569	**3,027**	1,195	1,166	**2,361**
10:00-10:59	1,624	1,650	**3,274**	1,758	1,784	**3,542**	1,427	1,548	**2,975**
11:00-11:59	1,762	1,749	**3,511**	1,901	1,856	**3,757**	1,595	1,772	**3,367**
12:00-12:59	1,852	1,833	**3,684**	1,938	1,854	**3,792**	1,690	1,822	**3,512**
13:00-13:59	1,950	1,882	**3,832**	1,871	1,790	**3,661**	1,631	1,746	**3,377**
14:00-14:59	2,212	2,070	**4,281**	1,863	1,703	**3,566**	1,637	1,775	**3,412**
15:00-15:59	2,618	2,408	**5,026**	1,861	1,693	**3,554**	1,636	1,838	**3,474**
16:00-16:59	3,120	2,856	**5,976**	1,844	1,604	**3,448**	1,632	1,748	**3,380**
17:00-17:59	2,702	2,555	**5,256**	1,733	1,494	**3,227**	1,464	1,542	**3,006**
18:00-18:59	1,631	1,506	**3,137**	1,398	1,293	**2,691**	1,214	1,275	**2,489**
19:00-19:59	1,147	954	**2,100**	1,117	979	**2,096**	946	980	**1,926**
20:00-20:59	942	785	**1,727**	957	834	**1,791**	714	724	**1,438**
21:00-21:59	731	629	**1,360**	823	820	**1,643**	522	506	**1,028**
22:00-22:59	488	483	**971**	611	689	**1,300**	325	334	**659**
23:00-23:59	294	310	**604**	393	488	**881**	189	261	**450**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	356	538	575
01:00-01:59	267	352	372
02:00-02:59	282	324	314
03:00-03:59	406	310	223
04:00-04:59	926	432	263
05:00-05:59	2,312	790	498
06:00-06:59	4,211	1,207	694
07:00-07:59	5,715	1,827	1,062
08:00-08:59	3,962	2,491	1,625
09:00-09:59	3,400	3,181	2,481
10:00-10:59	3,440	3,722	3,126
11:00-11:59	3,689	3,948	3,538
12:00-12:59	3,871	3,985	3,690
13:00-13:59	4,027	3,847	3,549
14:00-14:59	4,499	3,747	3,585
15:00-15:59	5,281	3,735	3,650
16:00-16:59	6,280	3,623	3,552
17:00-17:59	5,523	3,391	3,159
18:00-18:59	3,296	2,828	2,615
19:00-19:59	2,207	2,202	2,024
20:00-20:59	1,814	1,882	1,511
21:00-21:59	1,429	1,726	1,080
22:00-22:59	1,020	1,366	692
23:00-23:59	634	926	473
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	177,681	0	0	177,681
Total Volume	344,250	52,380	44,351	440,982
				40%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

Segment	8c
Target AADT	77,250

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	**338**	253	259	**512**	266	281	**547**
01:00-01:59	133	121	**254**	161	174	**335**	173	181	**354**
02:00-02:59	128	140	**268**	146	162	**308**	149	150	**299**
03:00-03:59	147	239	**387**	119	176	**295**	93	119	**212**
04:00-04:59	406	475	**881**	192	219	**411**	119	131	**250**
05:00-05:59	1,120	1,081	**2,201**	373	379	**752**	244	230	**474**
06:00-06:59	1,883	2,125	**4,008**	536	613	**1,149**	313	347	**660**
07:00-07:59	2,547	2,891	**5,439**	792	947	**1,739**	484	527	**1,011**
08:00-08:59	1,796	1,974	**3,771**	1,102	1,269	**2,371**	768	778	**1,546**
09:00-09:59	1,590	1,646	**3,236**	1,458	1,569	**3,027**	1,195	1,166	**2,361**
10:00-10:59	1,624	1,650	**3,274**	1,758	1,784	**3,542**	1,427	1,548	**2,975**
11:00-11:59	1,762	1,749	**3,511**	1,901	1,856	**3,757**	1,595	1,772	**3,367**
12:00-12:59	1,852	1,833	**3,684**	1,938	1,854	**3,792**	1,690	1,822	**3,512**
13:00-13:59	1,950	1,882	**3,832**	1,871	1,790	**3,661**	1,631	1,746	**3,377**
14:00-14:59	2,212	2,070	**4,281**	1,863	1,703	**3,566**	1,637	1,775	**3,412**
15:00-15:59	2,618	2,408	**5,026**	1,861	1,693	**3,554**	1,636	1,838	**3,474**
16:00-16:59	3,120	2,856	**5,976**	1,844	1,604	**3,448**	1,632	1,748	**3,380**
17:00-17:59	2,702	2,555	**5,256**	1,733	1,494	**3,227**	1,464	1,542	**3,006**
18:00-18:59	1,631	1,506	**3,137**	1,398	1,293	**2,691**	1,214	1,275	**2,489**
19:00-19:59	1,147	954	**2,100**	1,117	979	**2,096**	946	980	**1,926**
20:00-20:59	942	785	**1,727**	957	834	**1,791**	714	724	**1,438**
21:00-21:59	731	629	**1,360**	823	820	**1,643**	522	506	**1,028**
22:00-22:59	488	483	**971**	611	689	**1,300**	325	334	**659**
23:00-23:59	294	310	**604**	393	488	**881**	189	261	**450**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	399	604	645
01:00-01:59	300	395	417
02:00-02:59	316	363	353
03:00-03:59	456	348	250
04:00-04:59	1,039	485	295
05:00-05:59	2,595	887	559
06:00-06:59	4,725	1,355	778
07:00-07:59	6,412	2,050	1,192
08:00-08:59	4,446	2,795	1,823
09:00-09:59	3,815	3,569	2,784
10:00-10:59	3,860	4,176	3,508
11:00-11:59	4,139	4,430	3,970
12:00-12:59	4,344	4,471	4,141
13:00-13:59	4,518	4,316	3,981
14:00-14:59	5,048	4,204	4,023
15:00-15:59	5,925	4,190	4,096
16:00-16:59	7,046	4,065	3,985
17:00-17:59	6,197	3,805	3,544
18:00-18:59	3,699	3,173	2,935
19:00-19:59	2,476	2,471	2,271
20:00-20:59	2,036	2,112	1,695
21:00-21:59	1,603	1,937	1,212
22:00-22:59	1,145	1,533	777
23:00-23:59	712	1,039	531
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	264,003	29,852	12,259	306,114
Total Volume	386,250	58,771	49,762	494,783
				62%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	8d
Target AADT	71,000

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	**338**	253	259	**512**	266	281	**547**
01:00-01:59	133	121	**254**	161	174	**335**	173	181	**354**
02:00-02:59	128	140	**268**	146	162	**308**	149	150	**299**
03:00-03:59	147	239	**387**	119	176	**295**	93	119	**212**
04:00-04:59	406	475	**881**	192	219	**411**	119	131	**250**
05:00-05:59	1,120	1,081	**2,201**	373	379	**752**	244	230	**474**
06:00-06:59	1,883	2,125	**4,008**	536	613	**1,149**	313	347	**660**
07:00-07:59	2,547	2,891	**5,439**	792	947	**1,739**	484	527	**1,011**
08:00-08:59	1,796	1,974	**3,771**	1,102	1,269	**2,371**	768	778	**1,546**
09:00-09:59	1,590	1,646	**3,236**	1,458	1,569	**3,027**	1,195	1,166	**2,361**
10:00-10:59	1,624	1,650	**3,274**	1,758	1,784	**3,542**	1,427	1,548	**2,975**
11:00-11:59	1,762	1,749	**3,511**	1,901	1,856	**3,757**	1,595	1,772	**3,367**
12:00-12:59	1,852	1,833	**3,684**	1,938	1,854	**3,792**	1,690	1,822	**3,512**
13:00-13:59	1,950	1,882	**3,832**	1,871	1,790	**3,661**	1,631	1,746	**3,377**
14:00-14:59	2,212	2,070	**4,281**	1,863	1,703	**3,566**	1,637	1,775	**3,412**
15:00-15:59	2,618	2,408	**5,026**	1,861	1,693	**3,554**	1,636	1,838	**3,474**
16:00-16:59	3,120	2,856	**5,976**	1,844	1,604	**3,448**	1,632	1,748	**3,380**
17:00-17:59	2,702	2,555	**5,256**	1,733	1,494	**3,227**	1,464	1,542	**3,006**
18:00-18:59	1,631	1,506	**3,137**	1,398	1,293	**2,691**	1,214	1,275	**2,489**
19:00-19:59	1,147	954	**2,100**	1,117	979	**2,096**	946	980	**1,926**
20:00-20:59	942	785	**1,727**	957	834	**1,791**	714	724	**1,438**
21:00-21:59	731	629	**1,360**	823	820	**1,643**	522	506	**1,028**
22:00-22:59	488	483	**971**	611	689	**1,300**	325	334	**659**
23:00-23:59	294	310	**604**	393	488	**881**	189	261	**450**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	367	555	593
01:00-01:59	276	363	384
02:00-02:59	290	334	324
03:00-03:59	419	320	230
04:00-04:59	955	445	271
05:00-05:59	2,385	815	514
06:00-06:59	4,343	1,245	715
07:00-07:59	5,893	1,884	1,096
08:00-08:59	4,086	2,569	1,675
09:00-09:59	3,507	3,280	2,558
10:00-10:59	3,548	3,838	3,224
11:00-11:59	3,805	4,071	3,649
12:00-12:59	3,992	4,109	3,806
13:00-13:59	4,152	3,967	3,659
14:00-14:59	4,639	3,864	3,697
15:00-15:59	5,446	3,851	3,764
16:00-16:59	6,476	3,736	3,663
17:00-17:59	5,696	3,497	3,257
18:00-18:59	3,399	2,916	2,697
19:00-19:59	2,276	2,271	2,087
20:00-20:59	1,871	1,941	1,558
21:00-21:59	1,474	1,780	1,114
22:00-22:59	1,052	1,409	714
23:00-23:59	654	955	488
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	203,659	8,180	0	211,839
Total Volume	355,000	54,016	45,736	454,752
				47%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	9a
Target AADT	64,950

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH N & STH 55
Site #	440161
Trend ID	4 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	166	174	**174**			**263**			**281**
01:00-01:59	130	107	**237**			**312**			**330**
02:00-02:59	115	112	**227**			**261**			**253**
03:00-03:59	147	208	**355**			**271**			**195**
04:00-04:59	355	391	**746**			**348**			**212**
05:00-05:59	1,148	933	**2,081**			**711**			**448**
06:00-06:59	1,861	1,993	**3,854**			**1,105**			**635**
07:00-07:59	2,541	2,568	**5,109**			**1,633**			**950**
08:00-08:59	1,713	1,838	**3,551**			**2,233**			**1,456**
09:00-09:59	1,486	1,486	**2,972**			**2,780**			**2,168**
10:00-10:59	1,498	1,436	**2,934**			**3,174**			**2,666**
11:00-11:59	1,604	1,577	**3,181**			**3,404**			**3,051**
12:00-12:59	1,607	1,632	**3,239**			**3,333**			**3,087**
13:00-13:59	1,655	1,628	**3,282**			**3,136**			**2,892**
14:00-14:59	1,853	1,896	**3,749**			**3,122**			**2,987**
15:00-15:59	2,199	2,231	**4,430**			**3,133**			**3,062**
16:00-16:59	2,762	2,830	**5,592**			**3,226**			**3,163**
17:00-17:59	2,490	2,608	**5,098**			**3,129**			**2,915**
18:00-18:59	1,479	1,498	**2,977**			**2,553**			**2,362**
19:00-19:59	1,064	959	**2,023**			**2,019**			**1,855**
20:00-20:59	927	866	**1,793**			**1,859**			**1,493**
21:00-21:59	765	709	**1,474**			**1,781**			**1,114**
22:00-22:59	442	480	**922**			**1,234**			**626**
23:00-23:59	262	268	**530**			**773**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.2%	47%	28%
3.4%	34%	22%
6.4%	29%	16%
8.4%	32%	19%
5.9%	63%	41%
4.9%	94%	73%
4.8%	108%	91%
5.3%	107%	96%
5.4%	103%	95%
5.4%	96%	88%
6.2%	83%	80%
7.3%	71%	69%
9.2%	58%	57%
8.4%	61%	57%
4.9%	86%	79%
3.3%	100%	92%
3.0%	104%	83%
2.4%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

**Trends from ATR 440103*

High Volume Hour Calculations

Hour	Mon-Fri	Saturdays	Sundays
	D		
00:00-00:59	187	283	302
01:00-01:59	254	335	354
02:00-02:59	244	280	272
03:00-03:59	381	291	209
04:00-04:59	800	373	227
05:00-05:59	2,233	763	481
06:00-06:59	4,136	1,186	681
07:00-07:59	5,482	1,753	1,019
08:00-08:59	3,811	2,396	1,562
09:00-09:59	3,189	2,983	2,327
10:00-10:59	3,148	3,406	2,861
11:00-11:59	3,414	3,653	3,274
12:00-12:59	3,475	3,577	3,313
13:00-13:59	3,522	3,365	3,104
14:00-14:59	4,023	3,350	3,206
15:00-15:59	4,754	3,362	3,286
16:00-16:59	6,001	3,462	3,394
17:00-17:59	5,470	3,358	3,128
18:00-18:59	3,194	2,740	2,534
19:00-19:59	2,171	2,167	1,991
20:00-20:59	1,924	1,995	1,602
21:00-21:59	1,582	1,911	1,196
22:00-22:59	989	1,325	671
23:00-23:59	569	830	424
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	149,326	0	0	149,326
Total Volume	324,750	49,142	41,416	415,309
				36%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	9b
Target AADT	68,500

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH N & STH 55
Site #	440161
Trend ID	4 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	166	174	**174**			**263**			**281**
01:00-01:59	130	107	**237**			**312**			**330**
02:00-02:59	115	112	**227**			**261**			**253**
03:00-03:59	147	208	**355**			**271**			**195**
04:00-04:59	355	391	**746**			**348**			**212**
05:00-05:59	1,148	933	**2,081**			**711**			**448**
06:00-06:59	1,861	1,993	**3,854**			**1,105**			**635**
07:00-07:59	2,541	2,568	**5,109**			**1,633**			**950**
08:00-08:59	1,713	1,838	**3,551**			**2,233**			**1,456**
09:00-09:59	1,486	1,486	**2,972**			**2,780**			**2,168**
10:00-10:59	1,498	1,436	**2,934**			**3,174**			**2,666**
11:00-11:59	1,604	1,577	**3,181**			**3,404**			**3,051**
12:00-12:59	1,607	1,632	**3,239**			**3,333**			**3,087**
13:00-13:59	1,655	1,628	**3,282**			**3,136**			**2,892**
14:00-14:59	1,853	1,896	**3,749**			**3,122**			**2,987**
15:00-15:59	2,199	2,231	**4,430**			**3,133**			**3,062**
16:00-16:59	2,762	2,830	**5,592**			**3,226**			**3,163**
17:00-17:59	2,490	2,608	**5,098**			**3,129**			**2,915**
18:00-18:59	1,479	1,498	**2,977**			**2,553**			**2,362**
19:00-19:59	1,064	959	**2,023**			**2,019**			**1,855**
20:00-20:59	927	866	**1,793**			**1,859**			**1,493**
21:00-21:59	765	709	**1,474**			**1,781**			**1,114**
22:00-22:59	442	480	**922**			**1,234**			**626**
23:00-23:59	262	268	**530**			**773**			**395**
	Raw coverage count data			*Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.*					

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.2%	47%	28%
3.4%	34%	22%
6.4%	29%	16%
8.4%	32%	19%
5.9%	63%	41%
4.9%	94%	73%
4.8%	108%	91%
5.3%	107%	96%
5.4%	103%	95%
5.4%	96%	88%
6.2%	83%	80%
7.3%	71%	69%
9.2%	58%	57%
8.4%	61%	57%
4.9%	86%	79%
3.3%	100%	92%
3.0%	104%	83%
2.4%	121%	76%
1.5%	134%	68%
0.9%	146%	75%
	*Trends from ATR 440103	

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	197	298	318
01:00-01:59	268	353	373
02:00-02:59	257	295	287
03:00-03:59	402	307	220
04:00-04:59	844	394	239
05:00-05:59	2,355	805	507
06:00-06:59	4,362	1,250	718
07:00-07:59	5,782	1,849	1,075
08:00-08:59	4,019	2,527	1,648
09:00-09:59	3,363	3,146	2,454
10:00-10:59	3,320	3,592	3,017
11:00-11:59	3,600	3,852	3,452
12:00-12:59	3,665	3,772	3,494
13:00-13:59	3,714	3,549	3,273
14:00-14:59	4,242	3,534	3,381
15:00-15:59	5,014	3,545	3,466
16:00-16:59	6,329	3,651	3,579
17:00-17:59	5,769	3,542	3,299
18:00-18:59	3,369	2,890	2,673
19:00-19:59	2,290	2,285	2,100
20:00-20:59	2,029	2,104	1,690
21:00-21:59	1,668	2,016	1,261
22:00-22:59	1,043	1,397	708
23:00-23:59	600	875	447
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	177,582	0	0	177,582
Total Volume	342,500	51,828	43,680	438,008
				41%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	9c
Target AADT	72,750

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH N & STH 55
Site #	440161
Trend ID	4 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	166	174	**174**			**263**			**281**
01:00-01:59	130	107	**237**			**312**			**330**
02:00-02:59	115	112	**227**			**261**			**253**
03:00-03:59	147	208	**355**			**271**			**195**
04:00-04:59	355	391	**746**			**348**			**212**
05:00-05:59	1,148	933	**2,081**			**711**			**448**
06:00-06:59	1,861	1,993	**3,854**			**1,105**			**635**
07:00-07:59	2,541	2,568	**5,109**			**1,633**			**950**
08:00-08:59	1,713	1,838	**3,551**			**2,233**			**1,456**
09:00-09:59	1,486	1,486	**2,972**			**2,780**			**2,168**
10:00-10:59	1,498	1,436	**2,934**			**3,174**			**2,666**
11:00-11:59	1,604	1,577	**3,181**			**3,404**			**3,051**
12:00-12:59	1,607	1,632	**3,239**			**3,333**			**3,087**
13:00-13:59	1,655	1,628	**3,282**			**3,136**			**2,892**
14:00-14:59	1,853	1,896	**3,749**			**3,122**			**2,987**
15:00-15:59	2,199	2,231	**4,430**			**3,133**			**3,062**
16:00-16:59	2,762	2,830	**5,592**			**3,226**			**3,163**
17:00-17:59	2,490	2,608	**5,098**			**3,129**			**2,915**
18:00-18:59	1,479	1,498	**2,977**			**2,553**			**2,362**
19:00-19:59	1,064	959	**2,023**			**2,019**			**1,855**
20:00-20:59	927	866	**1,793**			**1,859**			**1,493**
21:00-21:59	765	709	**1,474**			**1,781**			**1,114**
22:00-22:59	442	480	**922**			**1,234**			**626**
23:00-23:59	262	268	**530**			**773**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.2%	47%	28%
3.4%	34%	22%
6.4%	29%	16%
8.4%	32%	19%
5.9%	63%	41%
4.9%	94%	73%
4.8%	108%	91%
5.3%	107%	96%
5.4%	103%	95%
5.4%	96%	88%
6.2%	83%	80%
7.3%	71%	69%
9.2%	58%	57%
8.4%	61%	57%
4.9%	86%	79%
3.3%	100%	92%
3.0%	104%	83%
2.4%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

*Trends from ATR 440103

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	209	316	338
01:00-01:59	285	375	396
02:00-02:59	273	314	304
03:00-03:59	427	326	234
04:00-04:59	896	418	254
05:00-05:59	2,501	855	539
06:00-06:59	4,632	1,328	763
07:00-07:59	6,140	1,963	1,141
08:00-08:59	4,268	2,684	1,750
09:00-09:59	3,572	3,341	2,606
10:00-10:59	3,526	3,815	3,204
11:00-11:59	3,824	4,091	3,667
12:00-12:59	3,893	4,007	3,711
13:00-13:59	3,945	3,769	3,477
14:00-14:59	4,506	3,753	3,591
15:00-15:59	5,325	3,765	3,681
16:00-16:59	6,721	3,878	3,802
17:00-17:59	6,127	3,762	3,504
18:00-18:59	3,578	3,069	2,839
19:00-19:59	2,432	2,427	2,230
20:00-20:59	2,155	2,235	1,794
21:00-21:59	1,772	2,141	1,339
22:00-22:59	1,108	1,484	752
23:00-23:59	637	930	475
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	188,600	8,098	0	196,698
Total Volume	363,750	55,044	46,390	465,184
				42%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	9d
Target AADT	68,000

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN CTH N & STH 55
Site #	440161
Trend ID	4 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	166	174	**174**			**263**			**281**
01:00-01:59	130	107	**237**			**312**			**330**
02:00-02:59	115	112	**227**			**261**			**253**
03:00-03:59	147	208	**355**			**271**			**195**
04:00-04:59	355	391	**746**			**348**			**212**
05:00-05:59	1,148	933	**2,081**			**711**			**448**
06:00-06:59	1,861	1,993	**3,854**			**1,105**			**635**
07:00-07:59	2,541	2,568	**5,109**			**1,633**			**950**
08:00-08:59	1,713	1,838	**3,551**			**2,233**			**1,456**
09:00-09:59	1,486	1,486	**2,972**			**2,780**			**2,168**
10:00-10:59	1,498	1,436	**2,934**			**3,174**			**2,666**
11:00-11:59	1,604	1,577	**3,181**			**3,404**			**3,051**
12:00-12:59	1,607	1,632	**3,239**			**3,333**			**3,087**
13:00-13:59	1,655	1,628	**3,282**			**3,136**			**2,892**
14:00-14:59	1,853	1,896	**3,749**			**3,122**			**2,987**
15:00-15:59	2,199	2,231	**4,430**			**3,133**			**3,062**
16:00-16:59	2,762	2,830	**5,592**			**3,226**			**3,163**
17:00-17:59	2,490	2,608	**5,098**			**3,129**			**2,915**
18:00-18:59	1,479	1,498	**2,977**			**2,553**			**2,362**
19:00-19:59	1,064	959	**2,023**			**2,019**			**1,855**
20:00-20:59	927	866	**1,793**			**1,859**			**1,493**
21:00-21:59	765	709	**1,474**			**1,781**			**1,114**
22:00-22:59	442	480	**922**			**1,234**			**626**
23:00-23:59	262	268	**530**			**773**			**395**
	Raw coverage count data			*Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.*					

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.2%	47%	28%
3.4%	34%	22%
6.4%	29%	16%
8.4%	32%	19%
5.9%	63%	41%
4.9%	94%	73%
4.8%	108%	91%
5.3%	107%	96%
5.4%	103%	95%
5.4%	96%	88%
6.2%	83%	80%
7.3%	71%	69%
9.2%	58%	57%
8.4%	61%	57%
4.9%	86%	79%
3.3%	100%	92%
3.0%	104%	83%
2.4%	121%	76%
1.5%	134%	68%
0.9%	146%	75%
	*Trends from ATR 440103	

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	195	296	316
01:00-01:59	266	351	371
02:00-02:59	255	293	285
03:00-03:59	399	304	219
04:00-04:59	838	391	238
05:00-05:59	2,337	799	503
06:00-06:59	4,330	1,241	713
07:00-07:59	5,739	1,835	1,067
08:00-08:59	3,990	2,509	1,636
09:00-09:59	3,338	3,123	2,436
10:00-10:59	3,296	3,566	2,995
11:00-11:59	3,574	3,824	3,427
12:00-12:59	3,638	3,745	3,468
13:00-13:59	3,687	3,523	3,250
14:00-14:59	4,211	3,508	3,356
15:00-15:59	4,977	3,520	3,440
16:00-16:59	6,283	3,625	3,553
17:00-17:59	5,727	3,516	3,275
18:00-18:59	3,344	2,869	2,653
19:00-19:59	2,273	2,268	2,084
20:00-20:59	2,014	2,089	1,677
21:00-21:59	1,656	2,001	1,252
22:00-22:59	1,036	1,387	703
23:00-23:59	595	869	444
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	156,338	0	0	156,338
Total Volume	340,000	51,450	43,361	434,811
				36%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	10a
Target AADT	63,250

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440160
Trend ID	5 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	137	139	**139**			**223**			**240**
01:00-01:59	102	107	**209**			**296**			**306**
02:00-02:59	99	113	**212**			**248**			**235**
03:00-03:59	143	143	**286**			**224**			**168**
04:00-04:59	313	357	**670**			**328**			**206**
05:00-05:59	870	888	**1,758**			**579**			**355**
06:00-06:59	1,680	1,832	**3,512**			**997**			**569**
07:00-07:59	2,364	2,507	**4,870**			**1,572**			**903**
08:00-08:59	1,579	1,656	**3,235**			**2,113**			**1,384**
09:00-09:59	1,421	1,353	**2,774**			**2,701**			**2,167**
10:00-10:59	1,258	1,279	**2,537**			**2,838**			**2,559**
11:00-11:59	1,346	1,340	**2,686**			**3,017**			**2,838**
12:00-12:59	1,363	1,423	**2,786**			**3,044**			**2,911**
13:00-13:59	1,408	1,530	**2,938**			**2,990**			**2,875**
14:00-14:59	1,571	1,776	**3,347**			**2,972**			**2,930**
15:00-15:59	1,952	1,988	**3,940**			**2,931**			**2,922**
16:00-16:59	2,415	2,599	**5,014**			**2,930**			**2,868**
17:00-17:59	2,255	2,367	**4,622**			**2,906**			**2,644**
18:00-18:59	1,231	1,261	**2,491**			**2,261**			**2,073**
19:00-19:59	874	833	**1,707**			**1,809**			**1,660**
20:00-20:59	768	690	**1,458**			**1,620**			**1,244**
21:00-21:59	575	562	**1,136**			**1,486**			**857**
22:00-22:59	367	372	**739**			**1,062**			**508**
23:00-23:59	214	213	**427**			**660**			**315**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
00:00-00:59	0.3%	161%	173%
01:00-01:59	0.4%	141%	147%
02:00-02:59	0.4%	117%	111%
03:00-03:59	0.5%	78%	59%
04:00-04:59	1.3%	49%	31%
05:00-05:59	3.3%	33%	20%
06:00-06:59	6.6%	28%	16%
07:00-07:59	9.1%	32%	19%
08:00-08:59	6.0%	65%	43%
09:00-09:59	5.2%	97%	78%
10:00-10:59	4.7%	112%	101%
11:00-11:59	5.0%	112%	106%
12:00-12:59	5.2%	109%	104%
13:00-13:59	5.5%	102%	98%
14:00-14:59	6.3%	89%	88%
15:00-15:59	7.4%	74%	74%
16:00-16:59	9.4%	58%	57%
17:00-17:59	8.6%	63%	57%
18:00-18:59	4.7%	91%	83%
19:00-19:59	3.2%	106%	97%
20:00-20:59	2.7%	111%	85%
21:00-21:59	2.1%	131%	75%
22:00-22:59	1.4%	144%	69%
23:00-23:59	0.8%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	164	263	284
01:00-01:59	247	350	362
02:00-02:59	250	293	278
03:00-03:59	338	265	198
04:00-04:59	792	388	243
05:00-05:59	2,078	684	419
06:00-06:59	4,152	1,179	673
07:00-07:59	5,759	1,859	1,068
08:00-08:59	3,825	2,498	1,637
09:00-09:59	3,280	3,194	2,563
10:00-10:59	3,000	3,356	3,027
11:00-11:59	3,176	3,568	3,356
12:00-12:59	3,294	3,599	3,442
13:00-13:59	3,474	3,535	3,400
14:00-14:59	3,958	3,514	3,465
15:00-15:59	4,659	3,466	3,456
16:00-16:59	5,929	3,465	3,391
17:00-17:59	5,465	3,436	3,126
18:00-18:59	2,946	2,673	2,452
19:00-19:59	2,019	2,139	1,963
20:00-20:59	1,724	1,915	1,471
21:00-21:59	1,343	1,757	1,014
22:00-22:59	873	1,255	601
23:00-23:59	504	780	372
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	129,818	0	0	129,818
Total Volume	316,250	49,433	42,261	407,944
				32%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	10b
Target AADT	65,950

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440160
Trend ID	5 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	137	139	**139**			**223**			**240**
01:00-01:59	102	107	**209**			**296**			**306**
02:00-02:59	99	113	**212**			**248**			**235**
03:00-03:59	143	143	**286**			**224**			**168**
04:00-04:59	313	357	**670**			**328**			**206**
05:00-05:59	870	888	**1,758**			**579**			**355**
06:00-06:59	1,680	1,832	**3,512**			**997**			**569**
07:00-07:59	2,364	2,507	**4,870**			**1,572**			**903**
08:00-08:59	1,579	1,656	**3,235**			**2,113**			**1,384**
09:00-09:59	1,421	1,353	**2,774**			**2,701**			**2,167**
10:00-10:59	1,258	1,279	**2,537**			**2,838**			**2,559**
11:00-11:59	1,346	1,340	**2,686**			**3,017**			**2,838**
12:00-12:59	1,363	1,423	**2,786**			**3,044**			**2,911**
13:00-13:59	1,408	1,530	**2,938**			**2,990**			**2,875**
14:00-14:59	1,571	1,776	**3,347**			**2,972**			**2,930**
15:00-15:59	1,952	1,988	**3,940**			**2,931**			**2,922**
16:00-16:59	2,415	2,599	**5,014**			**2,930**			**2,868**
17:00-17:59	2,255	2,367	**4,622**			**2,906**			**2,644**
18:00-18:59	1,231	1,261	**2,491**			**2,261**			**2,073**
19:00-19:59	874	833	**1,707**			**1,809**			**1,660**
20:00-20:59	768	690	**1,458**			**1,620**			**1,244**
21:00-21:59	575	562	**1,136**			**1,486**			**857**
22:00-22:59	367	372	**739**			**1,062**			**508**
23:00-23:59	214	213	**427**			**660**			**315**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.5%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.6%	28%	16%
9.1%	32%	19%
6.0%	65%	43%
5.2%	97%	78%
4.7%	112%	101%
5.0%	112%	106%
5.2%	109%	104%
5.5%	102%	98%
6.3%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.6%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.7%	111%	85%
2.1%	131%	75%
1.4%	144%	69%
0.8%	155%	74%

*Trends from ATR 050001

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	171	274	296
01:00-01:59	258	365	378
02:00-02:59	261	306	290
03:00-03:59	353	276	207
04:00-04:59	826	405	254
05:00-05:59	2,167	713	437
06:00-06:59	4,330	1,230	702
07:00-07:59	6,005	1,938	1,114
08:00-08:59	3,988	2,605	1,707
09:00-09:59	3,420	3,330	2,672
10:00-10:59	3,128	3,499	3,156
11:00-11:59	3,312	3,720	3,500
12:00-12:59	3,435	3,753	3,589
13:00-13:59	3,622	3,686	3,545
14:00-14:59	4,127	3,664	3,613
15:00-15:59	4,857	3,614	3,603
16:00-16:59	6,182	3,613	3,536
17:00-17:59	5,698	3,583	3,259
18:00-18:59	3,071	2,787	2,556
19:00-19:59	2,105	2,230	2,047
20:00-20:59	1,798	1,997	1,533
21:00-21:59	1,401	1,832	1,057
22:00-22:59	911	1,309	626
23:00-23:59	526	813	388
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	155,994	0	0	155,994
Total Volume	329,750	51,544	44,065	425,358
				37%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	10c
Target AADT	68,100

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440160
Trend ID	5 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	137	139	**139**			**223**			**240**
01:00-01:59	102	107	**209**			**296**			**306**
02:00-02:59	99	113	**212**			**248**			**235**
03:00-03:59	143	143	**286**			**224**			**168**
04:00-04:59	313	357	**670**			**328**			**206**
05:00-05:59	870	888	**1,758**			**579**			**355**
06:00-06:59	1,680	1,832	**3,512**			**997**			**569**
07:00-07:59	2,364	2,507	**4,870**			**1,572**			**903**
08:00-08:59	1,579	1,656	**3,235**			**2,113**			**1,384**
09:00-09:59	1,421	1,353	**2,774**			**2,701**			**2,167**
10:00-10:59	1,258	1,279	**2,537**			**2,838**			**2,559**
11:00-11:59	1,346	1,340	**2,686**			**3,017**			**2,838**
12:00-12:59	1,363	1,423	**2,786**			**3,044**			**2,911**
13:00-13:59	1,408	1,530	**2,938**			**2,990**			**2,875**
14:00-14:59	1,571	1,776	**3,347**			**2,972**			**2,930**
15:00-15:59	1,952	1,988	**3,940**			**2,931**			**2,922**
16:00-16:59	2,415	2,599	**5,014**			**2,930**			**2,868**
17:00-17:59	2,255	2,367	**4,622**			**2,906**			**2,644**
18:00-18:59	1,231	1,261	**2,491**			**2,261**			**2,073**
19:00-19:59	874	833	**1,707**			**1,809**			**1,660**
20:00-20:59	768	690	**1,458**			**1,620**			**1,244**
21:00-21:59	575	562	**1,136**			**1,486**			**857**
22:00-22:59	367	372	**739**			**1,062**			**508**
23:00-23:59	214	213	**427**			**660**			**315**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.5%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.6%	28%	16%
9.1%	32%	19%
6.0%	65%	43%
5.2%	97%	78%
4.7%	112%	101%
5.0%	112%	106%
5.2%	109%	104%
5.5%	102%	98%
6.3%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.6%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.7%	111%	85%
2.1%	131%	75%
1.4%	144%	69%
0.8%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	176	283	305
01:00-01:59	266	376	390
02:00-02:59	269	316	300
03:00-03:59	364	285	214
04:00-04:59	853	418	262
05:00-05:59	2,238	737	451
06:00-06:59	4,471	1,270	725
07:00-07:59	6,201	2,001	1,150
08:00-08:59	4,118	2,690	1,763
09:00-09:59	3,532	3,439	2,759
10:00-10:59	3,230	3,613	3,259
11:00-11:59	3,420	3,841	3,614
12:00-12:59	3,547	3,875	3,706
13:00-13:59	3,740	3,807	3,661
14:00-14:59	4,261	3,784	3,731
15:00-15:59	5,016	3,732	3,721
16:00-16:59	6,383	3,731	3,651
17:00-17:59	5,884	3,700	3,366
18:00-18:59	3,172	2,878	2,640
19:00-19:59	2,173	2,303	2,114
20:00-20:59	1,856	2,062	1,583
21:00-21:59	1,446	1,892	1,091
22:00-22:59	940	1,352	647
23:00-23:59	543	840	401
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	181,671	0	0	181,671
Total Volume	340,500	53,224	45,501	439,225
				41%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	10d
Target AADT	62,900

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440160
Trend ID	5 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB*	SB	1-way	NB	SB	1-way	NB	SB	1-way
00:00-00:59	137	139	**139**			**223**			**240**
01:00-01:59	102	107	**209**			**296**			**306**
02:00-02:59	99	113	**212**			**248**			**235**
03:00-03:59	143	143	**286**			**224**			**168**
04:00-04:59	313	357	**670**			**328**			**206**
05:00-05:59	870	888	**1,758**			**579**			**355**
06:00-06:59	1,680	1,832	**3,512**			**997**			**569**
07:00-07:59	2,364	2,507	**4,870**			**1,572**			**903**
08:00-08:59	1,579	1,656	**3,235**			**2,113**			**1,384**
09:00-09:59	1,421	1,353	**2,774**			**2,701**			**2,167**
10:00-10:59	1,258	1,279	**2,537**			**2,838**			**2,559**
11:00-11:59	1,346	1,340	**2,686**			**3,017**			**2,838**
12:00-12:59	1,363	1,423	**2,786**			**3,044**			**2,911**
13:00-13:59	1,408	1,530	**2,938**			**2,990**			**2,875**
14:00-14:59	1,571	1,776	**3,347**			**2,972**			**2,930**
15:00-15:59	1,952	1,988	**3,940**			**2,931**			**2,922**
16:00-16:59	2,415	2,599	**5,014**			**2,930**			**2,868**
17:00-17:59	2,255	2,367	**4,622**			**2,906**			**2,644**
18:00-18:59	1,231	1,261	**2,491**			**2,261**			**2,073**
19:00-19:59	874	833	**1,707**			**1,809**			**1,660**
20:00-20:59	768	690	**1,458**			**1,620**			**1,244**
21:00-21:59	575	562	**1,136**			**1,486**			**857**
22:00-22:59	367	372	**739**			**1,062**			**508**
23:00-23:59	214	213	**427**			**660**			**315**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
00:00-00:59	0.3%	161%	173%
01:00-01:59	0.4%	141%	147%
02:00-02:59	0.4%	117%	111%
03:00-03:59	0.5%	78%	59%
04:00-04:59	1.3%	49%	31%
05:00-05:59	3.3%	33%	20%
06:00-06:59	6.6%	28%	16%
07:00-07:59	9.1%	32%	19%
08:00-08:59	6.0%	65%	43%
09:00-09:59	5.2%	97%	78%
10:00-10:59	4.7%	112%	101%
11:00-11:59	5.0%	112%	106%
12:00-12:59	5.2%	109%	104%
13:00-13:59	5.5%	102%	98%
14:00-14:59	6.3%	89%	88%
15:00-15:59	7.4%	74%	74%
16:00-16:59	9.4%	58%	57%
17:00-17:59	8.6%	63%	57%
18:00-18:59	4.7%	91%	83%
19:00-19:59	3.2%	106%	97%
20:00-20:59	2.7%	111%	85%
21:00-21:59	2.1%	131%	75%
22:00-22:59	1.4%	144%	69%
23:00-23:59	0.8%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	163	262	282
01:00-01:59	246	348	360
02:00-02:59	249	292	277
03:00-03:59	336	263	197
04:00-04:59	788	386	242
05:00-05:59	2,067	680	417
06:00-06:59	4,129	1,173	669
07:00-07:59	5,727	1,848	1,062
08:00-08:59	3,804	2,484	1,628
09:00-09:59	3,262	3,176	2,549
10:00-10:59	2,983	3,337	3,010
11:00-11:59	3,159	3,548	3,338
12:00-12:59	3,276	3,579	3,423
13:00-13:59	3,454	3,516	3,381
14:00-14:59	3,936	3,495	3,446
15:00-15:59	4,633	3,447	3,436
16:00-16:59	5,896	3,446	3,372
17:00-17:59	5,435	3,417	3,109
18:00-18:59	2,929	2,658	2,438
19:00-19:59	2,007	2,127	1,952
20:00-20:59	1,715	1,905	1,462
21:00-21:59	1,336	1,748	1,008
22:00-22:59	868	1,248	597
23:00-23:59	502	776	370
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

*NB data was not explicitly given for Site 440161. Volumes were calculated using roadway and SB data.

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	129,100	0	0	129,100
Total Volume	314,500	49,160	42,027	405,687
				32%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	11a
Target AADT	57,750

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	**289**			**464**			**500**
01:00-01:59	100	99	**198**			**280**			**290**
02:00-02:59	92	102	**193**			**226**			**215**
03:00-03:59	163	138	**300**			**235**			**176**
04:00-04:59	314	317	**631**			**309**			**194**
05:00-05:59	978	833	**1,811**			**596**			**365**
06:00-06:59	1,729	1,737	**3,465**			**984**			**562**
07:00-07:59	2,475	2,198	**4,672**			**1,508**			**867**
08:00-08:59	1,604	1,590	**3,194**			**2,086**			**1,367**
09:00-09:59	1,355	1,313	**2,668**			**2,597**			**2,085**
10:00-10:59	1,327	1,267	**2,593**			**2,901**			**2,616**
11:00-11:59	1,326	1,364	**2,689**			**3,021**			**2,841**
12:00-12:59	1,293	1,416	**2,708**			**2,959**			**2,830**
13:00-13:59	1,354	1,425	**2,779**			**2,828**			**2,719**
14:00-14:59	1,514	1,708	**3,222**			**2,860**			**2,821**
15:00-15:59	1,893	2,082	**3,975**			**2,957**			**2,948**
16:00-16:59	2,331	2,677	**5,008**			**2,927**			**2,864**
17:00-17:59	2,128	2,408	**4,536**			**2,852**			**2,594**
18:00-18:59	1,274	1,331	**2,605**			**2,364**			**2,168**
19:00-19:59	879	880	**1,759**			**1,863**			**1,710**
20:00-20:59	755	800	**1,555**			**1,727**			**1,326**
21:00-21:59	637	648	**1,285**			**1,680**			**969**
22:00-22:59	374	416	**790**			**1,135**			**543**
23:00-23:59	203	251	**454**			**702**			**335**
	Raw coverage count data			*Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.*					

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%
	*Trends from ATR 050001	

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	312	502	541
01:00-01:59	214	303	314
02:00-02:59	209	245	232
03:00-03:59	325	254	190
04:00-04:59	682	334	209
05:00-05:59	1,959	645	395
06:00-06:59	3,749	1,065	608
07:00-07:59	5,055	1,632	938
08:00-08:59	3,455	2,257	1,479
09:00-09:59	2,887	2,811	2,255
10:00-10:59	2,806	3,138	2,830
11:00-11:59	2,910	3,268	3,074
12:00-12:59	2,930	3,202	3,062
13:00-13:59	3,006	3,060	2,942
14:00-14:59	3,486	3,095	3,052
15:00-15:59	4,300	3,200	3,190
16:00-16:59	5,419	3,167	3,099
17:00-17:59	4,907	3,086	2,807
18:00-18:59	2,818	2,558	2,346
19:00-19:59	1,903	2,016	1,851
20:00-20:59	1,682	1,869	1,435
21:00-21:59	1,390	1,818	1,049
22:00-22:59	854	1,228	588
23:00-23:59	491	760	363
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	98,410	0	0	98,410
Total Volume	288,750	45,510	38,849	373,109
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	11b
Target AADT	61,900

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	**289**			**464**			**500**
01:00-01:59	100	99	**198**			**280**			**290**
02:00-02:59	92	102	**193**			**226**			**215**
03:00-03:59	163	138	**300**			**235**			**176**
04:00-04:59	314	317	**631**			**309**			**194**
05:00-05:59	978	833	**1,811**			**596**			**365**
06:00-06:59	1,729	1,737	**3,465**			**984**			**562**
07:00-07:59	2,475	2,198	**4,672**			**1,508**			**867**
08:00-08:59	1,604	1,590	**3,194**			**2,086**			**1,367**
09:00-09:59	1,355	1,313	**2,668**			**2,597**			**2,085**
10:00-10:59	1,327	1,267	**2,593**			**2,901**			**2,616**
11:00-11:59	1,326	1,364	**2,689**			**3,021**			**2,841**
12:00-12:59	1,293	1,416	**2,708**			**2,959**			**2,830**
13:00-13:59	1,354	1,425	**2,779**			**2,828**			**2,719**
14:00-14:59	1,514	1,708	**3,222**			**2,860**			**2,821**
15:00-15:59	1,893	2,082	**3,975**			**2,957**			**2,948**
16:00-16:59	2,331	2,677	**5,008**			**2,927**			**2,864**
17:00-17:59	2,128	2,408	**4,536**			**2,852**			**2,594**
18:00-18:59	1,274	1,331	**2,605**			**2,364**			**2,168**
19:00-19:59	879	880	**1,759**			**1,863**			**1,710**
20:00-20:59	755	800	**1,555**			**1,727**			**1,326**
21:00-21:59	637	648	**1,285**			**1,680**			**969**
22:00-22:59	374	416	**790**			**1,135**			**543**
23:00-23:59	203	251	**454**			**702**			**335**
	Raw coverage count data			*Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.*					

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.5%	161%	173%
	0.4%	141%	147%
	0.4%	117%	111%
	0.6%	78%	59%
	1.2%	49%	31%
	3.4%	33%	20%
	6.5%	28%	16%
	8.8%	32%	19%
	6.0%	65%	43%
	5.0%	97%	78%
	4.9%	112%	101%
	5.0%	112%	106%
	5.1%	109%	104%
	5.2%	102%	98%
	6.0%	89%	88%
	7.4%	74%	74%
	9.4%	58%	57%
	8.5%	63%	57%
	4.9%	91%	83%
	3.3%	106%	97%
	2.9%	111%	85%
	2.4%	131%	75%
	1.5%	144%	69%
	0.9%	155%	74%
		*Trends from ATR 050001	

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	335	538	580
01:00-01:59	230	325	337
02:00-02:59	224	262	249
03:00-03:59	348	272	204
04:00-04:59	731	358	224
05:00-05:59	2,100	691	424
06:00-06:59	4,019	1,141	651
07:00-07:59	5,418	1,749	1,005
08:00-08:59	3,704	2,419	1,585
09:00-09:59	3,094	3,013	2,418
10:00-10:59	3,007	3,364	3,034
11:00-11:59	3,119	3,503	3,295
12:00-12:59	3,141	3,432	3,282
13:00-13:59	3,222	3,280	3,154
14:00-14:59	3,736	3,317	3,271
15:00-15:59	4,610	3,430	3,419
16:00-16:59	5,808	3,395	3,322
17:00-17:59	5,260	3,307	3,009
18:00-18:59	3,021	2,741	2,514
19:00-19:59	2,039	2,161	1,984
20:00-20:59	1,803	2,003	1,538
21:00-21:59	1,490	1,949	1,124
22:00-22:59	916	1,316	630
23:00-23:59	527	814	389
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	125,574	0	0	125,574
Total Volume	309,500	48,781	41,641	399,921
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	11c
Target AADT	66,000

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	**289**			**464**			**500**
01:00-01:59	100	99	**198**			**280**			**290**
02:00-02:59	92	102	**193**			**226**			**215**
03:00-03:59	163	138	**300**			**235**			**176**
04:00-04:59	314	317	**631**			**309**			**194**
05:00-05:59	978	833	**1,811**			**596**			**365**
06:00-06:59	1,729	1,737	**3,465**			**984**			**562**
07:00-07:59	2,475	2,198	**4,672**			**1,508**			**867**
08:00-08:59	1,604	1,590	**3,194**			**2,086**			**1,367**
09:00-09:59	1,355	1,313	**2,668**			**2,597**			**2,085**
10:00-10:59	1,327	1,267	**2,593**			**2,901**			**2,616**
11:00-11:59	1,326	1,364	**2,689**			**3,021**			**2,841**
12:00-12:59	1,293	1,416	**2,708**			**2,959**			**2,830**
13:00-13:59	1,354	1,425	**2,779**			**2,828**			**2,719**
14:00-14:59	1,514	1,708	**3,222**			**2,860**			**2,821**
15:00-15:59	1,893	2,082	**3,975**			**2,957**			**2,948**
16:00-16:59	2,331	2,677	**5,008**			**2,927**			**2,864**
17:00-17:59	2,128	2,408	**4,536**			**2,852**			**2,594**
18:00-18:59	1,274	1,331	**2,605**			**2,364**			**2,168**
19:00-19:59	879	880	**1,759**			**1,863**			**1,710**
20:00-20:59	755	800	**1,555**			**1,727**			**1,326**
21:00-21:59	637	648	**1,285**			**1,680**			**969**
22:00-22:59	374	416	**790**			**1,135**			**543**
23:00-23:59	203	251	**454**			**702**			**335**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.5%	161%	173%
	0.4%	141%	147%
	0.4%	117%	111%
	0.6%	78%	59%
	1.2%	49%	31%
	3.4%	33%	20%
	6.5%	28%	16%
	8.8%	32%	19%
	6.0%	65%	43%
	5.0%	97%	78%
	4.9%	112%	101%
	5.0%	112%	106%
	5.1%	109%	104%
	5.2%	102%	98%
	6.0%	89%	88%
	7.4%	74%	74%
	9.4%	58%	57%
	8.5%	63%	57%
	4.9%	91%	83%
	3.3%	106%	97%
	2.9%	111%	85%
	2.4%	131%	75%
	1.5%	144%	69%
	0.9%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	357	573	618
01:00-01:59	245	346	359
02:00-02:59	239	280	266
03:00-03:59	371	291	218
04:00-04:59	780	382	239
05:00-05:59	2,239	737	452
06:00-06:59	4,285	1,217	694
07:00-07:59	5,777	1,865	1,072
08:00-08:59	3,949	2,579	1,690
09:00-09:59	3,299	3,212	2,578
10:00-10:59	3,206	3,587	3,235
11:00-11:59	3,325	3,735	3,514
12:00-12:59	3,349	3,659	3,499
13:00-13:59	3,436	3,497	3,363
14:00-14:59	3,984	3,537	3,488
15:00-15:59	4,915	3,657	3,646
16:00-16:59	6,193	3,619	3,542
17:00-17:59	5,609	3,526	3,208
18:00-18:59	3,221	2,923	2,681
19:00-19:59	2,175	2,304	2,115
20:00-20:59	1,922	2,135	1,640
21:00-21:59	1,588	2,078	1,199
22:00-22:59	976	1,403	672
23:00-23:59	561	868	414
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	133,892	0	0	133,892
Total Volume	330,000	52,012	44,399	426,410
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	11d
Target AADT	65,850

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	**289**			**464**			**500**
01:00-01:59	100	99	**198**			**280**			**290**
02:00-02:59	92	102	**193**			**226**			**215**
03:00-03:59	163	138	**300**			**235**			**176**
04:00-04:59	314	317	**631**			**309**			**194**
05:00-05:59	978	833	**1,811**			**596**			**365**
06:00-06:59	1,729	1,737	**3,465**			**984**			**562**
07:00-07:59	2,475	2,198	**4,672**			**1,508**			**867**
08:00-08:59	1,604	1,590	**3,194**			**2,086**			**1,367**
09:00-09:59	1,355	1,313	**2,668**			**2,597**			**2,085**
10:00-10:59	1,327	1,267	**2,593**			**2,901**			**2,616**
11:00-11:59	1,326	1,364	**2,689**			**3,021**			**2,841**
12:00-12:59	1,293	1,416	**2,708**			**2,959**			**2,830**
13:00-13:59	1,354	1,425	**2,779**			**2,828**			**2,719**
14:00-14:59	1,514	1,708	**3,222**			**2,860**			**2,821**
15:00-15:59	1,893	2,082	**3,975**			**2,957**			**2,948**
16:00-16:59	2,331	2,677	**5,008**			**2,927**			**2,864**
17:00-17:59	2,128	2,408	**4,536**			**2,852**			**2,594**
18:00-18:59	1,274	1,331	**2,605**			**2,364**			**2,168**
19:00-19:59	879	880	**1,759**			**1,863**			**1,710**
20:00-20:59	755	800	**1,555**			**1,727**			**1,326**
21:00-21:59	637	648	**1,285**			**1,680**			**969**
22:00-22:59	374	416	**790**			**1,135**			**543**
23:00-23:59	203	251	**454**			**702**			**335**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	356	572	617
01:00-01:59	244	346	358
02:00-02:59	238	279	265
03:00-03:59	370	290	217
04:00-04:59	778	381	239
05:00-05:59	2,234	735	451
06:00-06:59	4,275	1,214	693
07:00-07:59	5,764	1,860	1,069
08:00-08:59	3,940	2,573	1,686
09:00-09:59	3,292	3,205	2,572
10:00-10:59	3,199	3,579	3,227
11:00-11:59	3,318	3,727	3,506
12:00-12:59	3,341	3,651	3,491
13:00-13:59	3,428	3,489	3,355
14:00-14:59	3,975	3,529	3,480
15:00-15:59	4,904	3,649	3,637
16:00-16:59	6,179	3,611	3,534
17:00-17:59	5,596	3,518	3,201
18:00-18:59	3,213	2,916	2,675
19:00-19:59	2,170	2,299	2,110
20:00-20:59	1,918	2,131	1,636
21:00-21:59	1,585	2,073	1,196
22:00-22:59	974	1,400	670
23:00-23:59	560	866	413
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	133,588	0	0	133,588
Total Volume	329,250	51,894	44,298	425,441
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	11e
Target AADT	66,000

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	**289**			**464**			**500**
01:00-01:59	100	99	**198**			**280**			**290**
02:00-02:59	92	102	**193**			**226**			**215**
03:00-03:59	163	138	**300**			**235**			**176**
04:00-04:59	314	317	**631**			**309**			**194**
05:00-05:59	978	833	**1,811**			**596**			**365**
06:00-06:59	1,729	1,737	**3,465**			**984**			**562**
07:00-07:59	2,475	2,198	**4,672**			**1,508**			**867**
08:00-08:59	1,604	1,590	**3,194**			**2,086**			**1,367**
09:00-09:59	1,355	1,313	**2,668**			**2,597**			**2,085**
10:00-10:59	1,327	1,267	**2,593**			**2,901**			**2,616**
11:00-11:59	1,326	1,364	**2,689**			**3,021**			**2,841**
12:00-12:59	1,293	1,416	**2,708**			**2,959**			**2,830**
13:00-13:59	1,354	1,425	**2,779**			**2,828**			**2,719**
14:00-14:59	1,514	1,708	**3,222**			**2,860**			**2,821**
15:00-15:59	1,893	2,082	**3,975**			**2,957**			**2,948**
16:00-16:59	2,331	2,677	**5,008**			**2,927**			**2,864**
17:00-17:59	2,128	2,408	**4,536**			**2,852**			**2,594**
18:00-18:59	1,274	1,331	**2,605**			**2,364**			**2,168**
19:00-19:59	879	880	**1,759**			**1,863**			**1,710**
20:00-20:59	755	800	**1,555**			**1,727**			**1,326**
21:00-21:59	637	648	**1,285**			**1,680**			**969**
22:00-22:59	374	416	**790**			**1,135**			**543**
23:00-23:59	203	251	**454**			**702**			**335**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

**Trends from ATR 050001*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	357	573	618
01:00-01:59	245	346	359
02:00-02:59	239	280	266
03:00-03:59	371	291	218
04:00-04:59	780	382	239
05:00-05:59	2,239	737	452
06:00-06:59	4,285	1,217	694
07:00-07:59	5,777	1,865	1,072
08:00-08:59	3,949	2,579	1,690
09:00-09:59	3,299	3,212	2,578
10:00-10:59	3,206	3,587	3,235
11:00-11:59	3,325	3,735	3,514
12:00-12:59	3,349	3,659	3,499
13:00-13:59	3,436	3,497	3,363
14:00-14:59	3,984	3,537	3,488
15:00-15:59	4,915	3,657	3,646
16:00-16:59	6,193	3,619	3,542
17:00-17:59	5,609	3,526	3,208
18:00-18:59	3,221	2,923	2,681
19:00-19:59	2,175	2,304	2,115
20:00-20:59	1,922	2,135	1,640
21:00-21:59	1,588	2,078	1,199
22:00-22:59	976	1,403	672
23:00-23:59	561	868	414
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	133,892	0	0	133,892
Total Volume	330,000	52,012	44,399	426,410
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	11f
Target AADT	63,450

2016 Coverage Count (48-hours)	
Location	USH 41 NORTH OF CTH J
Site #	440158
Trend ID	6 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	126	163	**289**			**464**			**500**
01:00-01:59	100	99	**198**			**280**			**290**
02:00-02:59	92	102	**193**			**226**			**215**
03:00-03:59	163	138	**300**			**235**			**176**
04:00-04:59	314	317	**631**			**309**			**194**
05:00-05:59	978	833	**1,811**			**596**			**365**
06:00-06:59	1,729	1,737	**3,465**			**984**			**562**
07:00-07:59	2,475	2,198	**4,672**			**1,508**			**867**
08:00-08:59	1,604	1,590	**3,194**			**2,086**			**1,367**
09:00-09:59	1,355	1,313	**2,668**			**2,597**			**2,085**
10:00-10:59	1,327	1,267	**2,593**			**2,901**			**2,616**
11:00-11:59	1,326	1,364	**2,689**			**3,021**			**2,841**
12:00-12:59	1,293	1,416	**2,708**			**2,959**			**2,830**
13:00-13:59	1,354	1,425	**2,779**			**2,828**			**2,719**
14:00-14:59	1,514	1,708	**3,222**			**2,860**			**2,821**
15:00-15:59	1,893	2,082	**3,975**			**2,957**			**2,948**
16:00-16:59	2,331	2,677	**5,008**			**2,927**			**2,864**
17:00-17:59	2,128	2,408	**4,536**			**2,852**			**2,594**
18:00-18:59	1,274	1,331	**2,605**			**2,364**			**2,168**
19:00-19:59	879	880	**1,759**			**1,863**			**1,710**
20:00-20:59	755	800	**1,555**			**1,727**			**1,326**
21:00-21:59	637	648	**1,285**			**1,680**			**969**
22:00-22:59	374	416	**790**			**1,135**			**543**
23:00-23:59	203	251	**454**			**702**			**335**
	Raw coverage count data			*Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.*					

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
00:00-00:59	0.5%	161%	173%
01:00-01:59	0.4%	141%	147%
02:00-02:59	0.4%	117%	111%
03:00-03:59	0.6%	78%	59%
04:00-04:59	1.2%	49%	31%
05:00-05:59	3.4%	33%	20%
06:00-06:59	6.5%	28%	16%
07:00-07:59	8.8%	32%	19%
08:00-08:59	6.0%	65%	43%
09:00-09:59	5.0%	97%	78%
10:00-10:59	4.9%	112%	101%
11:00-11:59	5.0%	112%	106%
12:00-12:59	5.1%	109%	104%
13:00-13:59	5.2%	102%	98%
14:00-14:59	6.0%	89%	88%
15:00-15:59	7.4%	74%	74%
16:00-16:59	9.4%	58%	57%
17:00-17:59	8.5%	63%	57%
18:00-18:59	4.9%	91%	83%
19:00-19:59	3.3%	106%	97%
20:00-20:59	2.9%	111%	85%
21:00-21:59	2.4%	131%	75%
22:00-22:59	1.5%	144%	69%
23:00-23:59	0.9%	155%	74%
		*Trends from ATR 050001	

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	343	551	594
01:00-01:59	235	333	345
02:00-02:59	229	269	255
03:00-03:59	357	279	209
04:00-04:59	750	367	230
05:00-05:59	2,152	709	434
06:00-06:59	4,119	1,170	668
07:00-07:59	5,554	1,793	1,030
08:00-08:59	3,796	2,480	1,625
09:00-09:59	3,172	3,088	2,478
10:00-10:59	3,083	3,448	3,110
11:00-11:59	3,197	3,591	3,378
12:00-12:59	3,219	3,518	3,364
13:00-13:59	3,303	3,362	3,233
14:00-14:59	3,830	3,400	3,353
15:00-15:59	4,725	3,516	3,505
16:00-16:59	5,954	3,480	3,405
17:00-17:59	5,392	3,390	3,084
18:00-18:59	3,096	2,810	2,577
19:00-19:59	2,091	2,215	2,033
20:00-20:59	1,848	2,053	1,576
21:00-21:59	1,527	1,998	1,152
22:00-22:59	939	1,349	646
23:00-23:59	540	835	398
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	128,719	0	0	128,719
Total Volume	317,250	50,002	42,683	409,935
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 - 1.5 MI NE OF OUTAGAMIE COUNTY LINE - DE PERE
Site #	050001
Trend ID	6 - ATR

Segment	12a
Target AADT	61,450

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	123	156	**279**	201	247	**448**	217	266	**483**
01:00-01:59	101	113	**214**	135	168	**303**	141	173	**314**
02:00-02:59	113	120	**233**	122	151	**273**	117	142	**259**
03:00-03:59	156	169	**326**	111	144	**255**	83	108	**191**
04:00-04:59	367	366	**733**	176	183	**359**	98	127	**225**
05:00-05:59	888	956	**1,844**	288	319	**607**	187	185	**372**
06:00-06:59	1,815	1,752	**3,567**	505	508	**1,013**	302	276	**578**
07:00-07:59	2,643	2,253	**4,896**	780	800	**1,580**	480	428	**908**
08:00-08:59	1,737	1,551	**3,287**	1,088	1,059	**2,147**	774	633	**1,407**
09:00-09:59	1,439	1,339	**2,777**	1,402	1,302	**2,704**	1,189	981	**2,170**
10:00-10:59	1,406	1,354	**2,761**	1,601	1,487	**3,088**	1,409	1,376	**2,785**
11:00-11:59	1,455	1,457	**2,912**	1,710	1,561	**3,271**	1,452	1,625	**3,077**
12:00-12:59	1,497	1,538	**3,035**	1,712	1,604	**3,316**	1,487	1,684	**3,171**
13:00-13:59	1,551	1,600	**3,151**	1,634	1,573	**3,207**	1,448	1,636	**3,084**
14:00-14:59	1,734	1,833	**3,567**	1,614	1,553	**3,167**	1,400	1,723	**3,123**
15:00-15:59	2,101	2,196	**4,298**	1,630	1,568	**3,198**	1,396	1,792	**3,188**
16:00-16:59	2,551	2,818	**5,369**	1,626	1,512	**3,138**	1,376	1,695	**3,071**
17:00-17:59	2,295	2,340	**4,635**	1,535	1,379	**2,914**	1,219	1,432	**2,651**
18:00-18:59	1,381	1,292	**2,673**	1,262	1,164	**2,426**	1,029	1,196	**2,225**
19:00-19:59	904	874	**1,779**	957	928	**1,885**	786	944	**1,730**
20:00-20:59	742	738	**1,481**	815	830	**1,645**	593	670	**1,263**
21:00-21:59	592	602	**1,194**	712	850	**1,562**	430	471	**901**
22:00-22:59	389	454	**843**	520	692	**1,212**	262	318	**580**
23:00-23:59	242	281	**523**	334	475	**809**	150	236	**386**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.3%	28%	16%
8.7%	32%	19%
5.8%	65%	43%
4.9%	97%	78%
4.9%	112%	101%
5.2%	112%	106%
5.4%	109%	104%
5.6%	102%	98%
6.3%	89%	88%
7.6%	74%	74%
9.5%	58%	57%
8.2%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.6%	111%	85%
2.1%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	304	488	526
01:00-01:59	233	330	342
02:00-02:59	254	298	282
03:00-03:59	355	278	208
04:00-04:59	799	391	245
05:00-05:59	2,010	662	405
06:00-06:59	3,888	1,104	630
07:00-07:59	5,336	1,722	990
08:00-08:59	3,583	2,340	1,534
09:00-09:59	3,027	2,947	2,365
10:00-10:59	3,009	3,366	3,036
11:00-11:59	3,174	3,565	3,354
12:00-12:59	3,308	3,615	3,456
13:00-13:59	3,435	3,496	3,362
14:00-14:59	3,888	3,452	3,404
15:00-15:59	4,685	3,486	3,475
16:00-16:59	5,853	3,420	3,347
17:00-17:59	5,052	3,176	2,890
18:00-18:59	2,914	2,644	2,425
19:00-19:59	1,939	2,055	1,886
20:00-20:59	1,614	1,793	1,377
21:00-21:59	1,301	1,703	982
22:00-22:59	919	1,321	632
23:00-23:59	570	882	421
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	104,626	0	0	104,626
Total Volume	307,250	48,535	41,575	397,361
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	12b
Target AADT	65,150

2018 Annual ATR Data	
Location	USH 41 - 1.5 MI NE OF OUTAGAMIE COUNTY LINE - DE PERE
Site #	050001
Trend ID	6 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	123	156	**279**	201	247	**448**	217	266	**483**
01:00-01:59	101	113	**214**	135	168	**303**	141	173	**314**
02:00-02:59	113	120	**233**	122	151	**273**	117	142	**259**
03:00-03:59	156	169	**326**	111	144	**255**	83	108	**191**
04:00-04:59	367	366	**733**	176	183	**359**	98	127	**225**
05:00-05:59	888	956	**1,844**	288	319	**607**	187	185	**372**
06:00-06:59	1,815	1,752	**3,567**	505	508	**1,013**	302	276	**578**
07:00-07:59	2,643	2,253	**4,896**	780	800	**1,580**	480	428	**908**
08:00-08:59	1,737	1,551	**3,287**	1,088	1,059	**2,147**	774	633	**1,407**
09:00-09:59	1,439	1,339	**2,777**	1,402	1,302	**2,704**	1,189	981	**2,170**
10:00-10:59	1,406	1,354	**2,761**	1,601	1,487	**3,088**	1,409	1,376	**2,785**
11:00-11:59	1,455	1,457	**2,912**	1,710	1,561	**3,271**	1,452	1,625	**3,077**
12:00-12:59	1,497	1,538	**3,035**	1,712	1,604	**3,316**	1,487	1,684	**3,171**
13:00-13:59	1,551	1,600	**3,151**	1,634	1,573	**3,207**	1,448	1,636	**3,084**
14:00-14:59	1,734	1,833	**3,567**	1,614	1,553	**3,167**	1,400	1,723	**3,123**
15:00-15:59	2,101	2,196	**4,298**	1,630	1,568	**3,198**	1,396	1,792	**3,188**
16:00-16:59	2,551	2,818	**5,369**	1,626	1,512	**3,138**	1,376	1,695	**3,071**
17:00-17:59	2,295	2,340	**4,635**	1,535	1,379	**2,914**	1,219	1,432	**2,651**
18:00-18:59	1,381	1,292	**2,673**	1,262	1,164	**2,426**	1,029	1,196	**2,225**
19:00-19:59	904	874	**1,779**	957	928	**1,885**	786	944	**1,730**
20:00-20:59	742	738	**1,481**	815	830	**1,645**	593	670	**1,263**
21:00-21:59	592	602	**1,194**	712	850	**1,562**	430	471	**901**
22:00-22:59	389	454	**843**	520	692	**1,212**	262	318	**580**
23:00-23:59	242	281	**523**	334	475	**809**	150	236	**386**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.3%	28%	16%
8.7%	32%	19%
5.8%	65%	43%
4.9%	97%	78%
4.9%	112%	101%
5.2%	112%	106%
5.4%	109%	104%
5.6%	102%	98%
6.3%	89%	88%
7.6%	74%	74%
9.5%	58%	57%
8.2%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.6%	111%	85%
2.1%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	322	518	558
01:00-01:59	248	350	363
02:00-02:59	269	315	299
03:00-03:59	376	295	221
04:00-04:59	847	415	260
05:00-05:59	2,131	701	430
06:00-06:59	4,122	1,171	668
07:00-07:59	5,658	1,826	1,049
08:00-08:59	3,799	2,481	1,626
09:00-09:59	3,210	3,125	2,508
10:00-10:59	3,190	3,569	3,218
11:00-11:59	3,365	3,780	3,556
12:00-12:59	3,507	3,832	3,665
13:00-13:59	3,641	3,706	3,564
14:00-14:59	4,122	3,660	3,609
15:00-15:59	4,967	3,696	3,684
16:00-16:59	6,205	3,626	3,549
17:00-17:59	5,356	3,368	3,064
18:00-18:59	3,089	2,804	2,571
19:00-19:59	2,056	2,178	1,999
20:00-20:59	1,711	1,901	1,460
21:00-21:59	1,380	1,805	1,041
22:00-22:59	974	1,401	670
23:00-23:59	604	935	446
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	152,147	0	0	152,147
Total Volume	325,750	51,458	44,079	421,286
				36%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 - 1.5 MI NE OF OUTAGAMIE COUNTY LINE - DE PERE
Site #	050001
Trend ID	6 - ATR

Segment	12c
Target AADT	68,850

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	123	156	**279**	201	247	**448**	217	266	**483**
01:00-01:59	101	113	**214**	135	168	**303**	141	173	**314**
02:00-02:59	113	120	**233**	122	151	**273**	117	142	**259**
03:00-03:59	156	169	**326**	111	144	**255**	83	108	**191**
04:00-04:59	367	366	**733**	176	183	**359**	98	127	**225**
05:00-05:59	888	956	**1,844**	288	319	**607**	187	185	**372**
06:00-06:59	1,815	1,752	**3,567**	505	508	**1,013**	302	276	**578**
07:00-07:59	2,643	2,253	**4,896**	780	800	**1,580**	480	428	**908**
08:00-08:59	1,737	1,551	**3,287**	1,088	1,059	**2,147**	774	633	**1,407**
09:00-09:59	1,439	1,339	**2,777**	1,402	1,302	**2,704**	1,189	981	**2,170**
10:00-10:59	1,406	1,354	**2,761**	1,601	1,487	**3,088**	1,409	1,376	**2,785**
11:00-11:59	1,455	1,457	**2,912**	1,710	1,561	**3,271**	1,452	1,625	**3,077**
12:00-12:59	1,497	1,538	**3,035**	1,712	1,604	**3,316**	1,487	1,684	**3,171**
13:00-13:59	1,551	1,600	**3,151**	1,634	1,573	**3,207**	1,448	1,636	**3,084**
14:00-14:59	1,734	1,833	**3,567**	1,614	1,553	**3,167**	1,400	1,723	**3,123**
15:00-15:59	2,101	2,196	**4,298**	1,630	1,568	**3,198**	1,396	1,792	**3,188**
16:00-16:59	2,551	2,818	**5,369**	1,626	1,512	**3,138**	1,376	1,695	**3,071**
17:00-17:59	2,295	2,340	**4,635**	1,535	1,379	**2,914**	1,219	1,432	**2,651**
18:00-18:59	1,381	1,292	**2,673**	1,262	1,164	**2,426**	1,029	1,196	**2,225**
19:00-19:59	904	874	**1,779**	957	928	**1,885**	786	944	**1,730**
20:00-20:59	742	738	**1,481**	815	830	**1,645**	593	670	**1,263**
21:00-21:59	592	602	**1,194**	712	850	**1,562**	430	471	**901**
22:00-22:59	389	454	**843**	520	692	**1,212**	262	318	**580**
23:00-23:59	242	281	**523**	334	475	**809**	150	236	**386**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.3%	28%	16%
8.7%	32%	19%
5.8%	65%	43%
4.9%	97%	78%
4.9%	112%	101%
5.2%	112%	106%
5.4%	109%	104%
5.6%	102%	98%
6.3%	89%	88%
7.6%	74%	74%
9.5%	58%	57%
8.2%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.6%	111%	85%
2.1%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	340	547	590
01:00-01:59	262	370	383
02:00-02:59	284	333	316
03:00-03:59	398	311	233
04:00-04:59	895	438	275
05:00-05:59	2,252	741	454
06:00-06:59	4,356	1,237	706
07:00-07:59	5,979	1,930	1,109
08:00-08:59	4,015	2,622	1,718
09:00-09:59	3,392	3,302	2,650
10:00-10:59	3,371	3,771	3,401
11:00-11:59	3,556	3,995	3,758
12:00-12:59	3,706	4,050	3,873
13:00-13:59	3,848	3,917	3,766
14:00-14:59	4,356	3,868	3,814
15:00-15:59	5,249	3,906	3,893
16:00-16:59	6,557	3,832	3,751
17:00-17:59	5,660	3,559	3,238
18:00-18:59	3,265	2,963	2,717
19:00-19:59	2,172	2,302	2,113
20:00-20:59	1,808	2,009	1,542
21:00-21:59	1,458	1,908	1,100
22:00-22:59	1,030	1,480	708
23:00-23:59	639	988	471
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	180,861	4,050	0	184,911
Total Volume	344,250	54,380	46,582	445,212
				42%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 - 1.5 MI NE OF OUTAGAMIE COUNTY LINE - DE PERE
Site #	050001
Trend ID	6 - ATR

Segment	12d
Target AADT	65,500

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	123	156	**279**	201	247	**448**	217	266	**483**
01:00-01:59	101	113	**214**	135	168	**303**	141	173	**314**
02:00-02:59	113	120	**233**	122	151	**273**	117	142	**259**
03:00-03:59	156	169	**326**	111	144	**255**	83	108	**191**
04:00-04:59	367	366	**733**	176	183	**359**	98	127	**225**
05:00-05:59	888	956	**1,844**	288	319	**607**	187	185	**372**
06:00-06:59	1,815	1,752	**3,567**	505	508	**1,013**	302	276	**578**
07:00-07:59	2,643	2,253	**4,896**	780	800	**1,580**	480	428	**908**
08:00-08:59	1,737	1,551	**3,287**	1,088	1,059	**2,147**	774	633	**1,407**
09:00-09:59	1,439	1,339	**2,777**	1,402	1,302	**2,704**	1,189	981	**2,170**
10:00-10:59	1,406	1,354	**2,761**	1,601	1,487	**3,088**	1,409	1,376	**2,785**
11:00-11:59	1,455	1,457	**2,912**	1,710	1,561	**3,271**	1,452	1,625	**3,077**
12:00-12:59	1,497	1,538	**3,035**	1,712	1,604	**3,316**	1,487	1,684	**3,171**
13:00-13:59	1,551	1,600	**3,151**	1,634	1,573	**3,207**	1,448	1,636	**3,084**
14:00-14:59	1,734	1,833	**3,567**	1,614	1,553	**3,167**	1,400	1,723	**3,123**
15:00-15:59	2,101	2,196	**4,298**	1,630	1,568	**3,198**	1,396	1,792	**3,188**
16:00-16:59	2,551	2,818	**5,369**	1,626	1,512	**3,138**	1,376	1,695	**3,071**
17:00-17:59	2,295	2,340	**4,635**	1,535	1,379	**2,914**	1,219	1,432	**2,651**
18:00-18:59	1,381	1,292	**2,673**	1,262	1,164	**2,426**	1,029	1,196	**2,225**
19:00-19:59	904	874	**1,779**	957	928	**1,885**	786	944	**1,730**
20:00-20:59	742	738	**1,481**	815	830	**1,645**	593	670	**1,263**
21:00-21:59	592	602	**1,194**	712	850	**1,562**	430	471	**901**
22:00-22:59	389	454	**843**	520	692	**1,212**	262	318	**580**
23:00-23:59	242	281	**523**	334	475	**809**	150	236	**386**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.3%	28%	16%
8.7%	32%	19%
5.8%	65%	43%
4.9%	97%	78%
4.9%	112%	101%
5.2%	112%	106%
5.4%	109%	104%
5.6%	102%	98%
6.3%	89%	88%
7.6%	74%	74%
9.5%	58%	57%
8.2%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.6%	111%	85%
2.1%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	324	521	561
01:00-01:59	249	352	365
02:00-02:59	270	317	301
03:00-03:59	378	296	222
04:00-04:59	852	417	261
05:00-05:59	2,142	705	432
06:00-06:59	4,144	1,177	672
07:00-07:59	5,688	1,836	1,055
08:00-08:59	3,819	2,495	1,635
09:00-09:59	3,227	3,142	2,521
10:00-10:59	3,207	3,588	3,236
11:00-11:59	3,383	3,800	3,575
12:00-12:59	3,526	3,853	3,684
13:00-13:59	3,661	3,726	3,583
14:00-14:59	4,144	3,680	3,628
15:00-15:59	4,993	3,716	3,704
16:00-16:59	6,238	3,646	3,568
17:00-17:59	5,385	3,386	3,080
18:00-18:59	3,106	2,819	2,585
19:00-19:59	2,067	2,190	2,010
20:00-20:59	1,720	1,911	1,467
21:00-21:59	1,387	1,815	1,047
22:00-22:59	980	1,408	674
23:00-23:59	608	940	448
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	152,964	0	0	152,964
Total Volume	327,500	51,734	44,316	423,550
				36%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 SOUTH OF CTH F
Site #	050109
Trend ID	7 - ATR

Segment	13a
Target AADT	62,950

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	135	150	**285**	225	246	**471**	254	272	**526**
01:00-01:59	109	112	**221**	147	171	**318**	156	178	**334**
02:00-02:59	116	124	**240**	130	156	**286**	126	146	**272**
03:00-03:59	158	182	**340**	117	149	**266**	89	110	**199**
04:00-04:59	378	401	**779**	188	205	**393**	106	139	**245**
05:00-05:59	936	1,024	**1,960**	303	334	**637**	195	192	**387**
06:00-06:59	1,882	1,829	**3,712**	518	533	**1,051**	306	297	**603**
07:00-07:59	2,916	2,216	**5,133**	822	833	**1,655**	497	448	**945**
08:00-08:59	1,950	1,546	**3,496**	1,149	1,101	**2,250**	769	672	**1,441**
09:00-09:59	1,564	1,393	**2,956**	1,487	1,362	**2,849**	1,222	1,055	**2,277**
10:00-10:59	1,515	1,427	**2,942**	1,696	1,559	**3,255**	1,468	1,461	**2,929**
11:00-11:59	1,556	1,538	**3,094**	1,803	1,639	**3,442**	1,562	1,714	**3,276**
12:00-12:59	1,602	1,629	**3,231**	1,801	1,696	**3,497**	1,568	1,775	**3,343**
13:00-13:59	1,654	1,702	**3,356**	1,722	1,663	**3,385**	1,523	1,718	**3,241**
14:00-14:59	1,821	1,978	**3,799**	1,693	1,663	**3,356**	1,477	1,801	**3,278**
15:00-15:59	2,174	2,382	**4,556**	1,722	1,664	**3,386**	1,464	1,853	**3,317**
16:00-16:59	2,601	3,031	**5,632**	1,705	1,603	**3,308**	1,446	1,745	**3,191**
17:00-17:59	2,430	2,402	**4,832**	1,622	1,457	**3,079**	1,297	1,454	**2,751**
18:00-18:59	1,519	1,365	**2,884**	1,359	1,210	**2,569**	1,091	1,251	**2,342**
19:00-19:59	979	942	**1,921**	1,023	987	**2,010**	837	991	**1,828**
20:00-20:59	783	797	**1,581**	854	887	**1,741**	630	683	**1,313**
21:00-21:59	628	642	**1,270**	749	900	**1,649**	455	482	**937**
22:00-22:59	418	465	**882**	561	714	**1,275**	283	332	**615**
23:00-23:59	259	280	**539**	368	474	**842**	161	237	**398**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	165%	185%
0.4%	144%	151%
0.4%	119%	113%
0.6%	78%	58%
1.3%	50%	31%
3.3%	32%	20%
6.2%	28%	16%
8.6%	32%	18%
5.9%	64%	41%
5.0%	96%	77%
4.9%	111%	100%
5.2%	111%	106%
5.4%	108%	103%
5.6%	101%	97%
6.4%	88%	86%
7.6%	74%	73%
9.4%	59%	57%
8.1%	64%	57%
4.8%	89%	81%
3.2%	105%	95%
2.7%	110%	83%
2.1%	130%	74%
1.5%	144%	70%
0.9%	156%	74%

High Volume Hour Calculations

Hour	Mon-Fri	Saturdays	Sundays
	D		
00:00-00:59	300	497	555
01:00-01:59	233	336	353
02:00-02:59	253	302	287
03:00-03:59	359	281	210
04:00-04:59	823	415	259
05:00-05:59	2,069	672	408
06:00-06:59	3,918	1,109	636
07:00-07:59	5,417	1,747	997
08:00-08:59	3,690	2,375	1,521
09:00-09:59	3,120	3,007	2,403
10:00-10:59	3,105	3,436	3,092
11:00-11:59	3,266	3,633	3,458
12:00-12:59	3,410	3,691	3,528
13:00-13:59	3,542	3,573	3,421
14:00-14:59	4,010	3,542	3,460
15:00-15:59	4,809	3,574	3,501
16:00-16:59	5,944	3,492	3,368
17:00-17:59	5,100	3,250	2,904
18:00-18:59	3,044	2,712	2,472
19:00-19:59	2,028	2,122	1,929
20:00-20:59	1,669	1,838	1,386
21:00-21:59	1,340	1,740	989
22:00-22:59	931	1,346	649
23:00-23:59	568	889	420
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	126,407	0	0	126,407
Total Volume	314,750	49,576	42,207	406,533
				31%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

2018 Annual ATR Data	
Location	USH 41 SOUTH OF CTH F
Site #	050109
Trend ID	7 - ATR

Segment	13b
Target AADT	66,700

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	135	150	**285**	225	246	**471**	254	272	**526**
01:00-01:59	109	112	**221**	147	171	**318**	156	178	**334**
02:00-02:59	116	124	**240**	130	156	**286**	126	146	**272**
03:00-03:59	158	182	**340**	117	149	**266**	89	110	**199**
04:00-04:59	378	401	**779**	188	205	**393**	106	139	**245**
05:00-05:59	936	1,024	**1,960**	303	334	**637**	195	192	**387**
06:00-06:59	1,882	1,829	**3,712**	518	533	**1,051**	306	297	**603**
07:00-07:59	2,916	2,216	**5,133**	822	833	**1,655**	497	448	**945**
08:00-08:59	1,950	1,546	**3,496**	1,149	1,101	**2,250**	769	672	**1,441**
09:00-09:59	1,564	1,393	**2,956**	1,487	1,362	**2,849**	1,222	1,055	**2,277**
10:00-10:59	1,515	1,427	**2,942**	1,696	1,559	**3,255**	1,468	1,461	**2,929**
11:00-11:59	1,556	1,538	**3,094**	1,803	1,639	**3,442**	1,562	1,714	**3,276**
12:00-12:59	1,602	1,629	**3,231**	1,801	1,696	**3,497**	1,568	1,775	**3,343**
13:00-13:59	1,654	1,702	**3,356**	1,722	1,663	**3,385**	1,523	1,718	**3,241**
14:00-14:59	1,821	1,978	**3,799**	1,693	1,663	**3,356**	1,477	1,801	**3,278**
15:00-15:59	2,174	2,382	**4,556**	1,722	1,664	**3,386**	1,464	1,853	**3,317**
16:00-16:59	2,601	3,031	**5,632**	1,705	1,603	**3,308**	1,446	1,745	**3,191**
17:00-17:59	2,430	2,402	**4,832**	1,622	1,457	**3,079**	1,297	1,454	**2,751**
18:00-18:59	1,519	1,365	**2,884**	1,359	1,210	**2,569**	1,091	1,251	**2,342**
19:00-19:59	979	942	**1,921**	1,023	987	**2,010**	837	991	**1,828**
20:00-20:59	783	797	**1,581**	854	887	**1,741**	630	683	**1,313**
21:00-21:59	628	642	**1,270**	749	900	**1,649**	455	482	**937**
22:00-22:59	418	465	**882**	561	714	**1,275**	283	332	**615**
23:00-23:59	259	280	**539**	368	474	**842**	161	237	**398**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	165%	185%
0.4%	144%	151%
0.4%	119%	113%
0.6%	78%	58%
1.3%	50%	31%
3.3%	32%	20%
6.2%	28%	16%
8.6%	32%	18%
5.9%	64%	41%
5.0%	96%	77%
4.9%	111%	100%
5.2%	111%	106%
5.4%	108%	103%
5.6%	101%	97%
6.4%	88%	86%
7.6%	74%	73%
9.4%	59%	57%
8.1%	64%	57%
4.8%	89%	81%
3.2%	105%	95%
2.7%	110%	83%
2.1%	130%	74%
1.5%	144%	70%
0.9%	156%	74%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	318	527	588
01:00-01:59	247	356	374
02:00-02:59	268	320	304
03:00-03:59	380	297	223
04:00-04:59	872	440	274
05:00-05:59	2,192	712	433
06:00-06:59	4,151	1,175	674
07:00-07:59	5,740	1,851	1,057
08:00-08:59	3,910	2,516	1,612
09:00-09:59	3,306	3,186	2,547
10:00-10:59	3,290	3,640	3,276
11:00-11:59	3,460	3,849	3,664
12:00-12:59	3,613	3,911	3,739
13:00-13:59	3,753	3,786	3,625
14:00-14:59	4,249	3,753	3,666
15:00-15:59	5,096	3,787	3,710
16:00-16:59	6,299	3,700	3,569
17:00-17:59	5,404	3,443	3,077
18:00-18:59	3,225	2,873	2,619
19:00-19:59	2,149	2,248	2,044
20:00-20:59	1,768	1,947	1,468
21:00-21:59	1,420	1,844	1,048
22:00-22:59	987	1,426	688
23:00-23:59	602	942	445
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	154,693	0	0	154,693
Total Volume	333,500	52,529	44,721	430,751
				36%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

Volume Condition: No-Build (2048)

DRAFT

Segment	13c
Target AADT	71,000

2018 Annual ATR Data	
Location	USH 41 SOUTH OF CTH F
Site #	050109
Trend ID	7 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	135	150	**285**	225	246	**471**	254	272	**526**
01:00-01:59	109	112	**221**	147	171	**318**	156	178	**334**
02:00-02:59	116	124	**240**	130	156	**286**	126	146	**272**
03:00-03:59	158	182	**340**	117	149	**266**	89	110	**199**
04:00-04:59	378	401	**779**	188	205	**393**	106	139	**245**
05:00-05:59	936	1,024	**1,960**	303	334	**637**	195	192	**387**
06:00-06:59	1,882	1,829	**3,712**	518	533	**1,051**	306	297	**603**
07:00-07:59	2,916	2,216	**5,133**	822	833	**1,655**	497	448	**945**
08:00-08:59	1,950	1,546	**3,496**	1,149	1,101	**2,250**	769	672	**1,441**
09:00-09:59	1,564	1,393	**2,956**	1,487	1,362	**2,849**	1,222	1,055	**2,277**
10:00-10:59	1,515	1,427	**2,942**	1,696	1,559	**3,255**	1,468	1,461	**2,929**
11:00-11:59	1,556	1,538	**3,094**	1,803	1,639	**3,442**	1,562	1,714	**3,276**
12:00-12:59	1,602	1,629	**3,231**	1,801	1,696	**3,497**	1,568	1,775	**3,343**
13:00-13:59	1,654	1,702	**3,356**	1,722	1,663	**3,385**	1,523	1,718	**3,241**
14:00-14:59	1,821	1,978	**3,799**	1,693	1,663	**3,356**	1,477	1,801	**3,278**
15:00-15:59	2,174	2,382	**4,556**	1,722	1,664	**3,386**	1,464	1,853	**3,317**
16:00-16:59	2,601	3,031	**5,632**	1,705	1,603	**3,308**	1,446	1,745	**3,191**
17:00-17:59	2,430	2,402	**4,832**	1,622	1,457	**3,079**	1,297	1,454	**2,751**
18:00-18:59	1,519	1,365	**2,884**	1,359	1,210	**2,569**	1,091	1,251	**2,342**
19:00-19:59	979	942	**1,921**	1,023	987	**2,010**	837	991	**1,828**
20:00-20:59	783	797	**1,581**	854	887	**1,741**	630	683	**1,313**
21:00-21:59	628	642	**1,270**	749	900	**1,649**	455	482	**937**
22:00-22:59	418	465	**882**	561	714	**1,275**	283	332	**615**
23:00-23:59	259	280	**539**	368	474	**842**	161	237	**398**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	165%	185%
0.4%	144%	151%
0.4%	119%	113%
0.6%	78%	58%
1.3%	50%	31%
3.3%	32%	20%
6.2%	28%	16%
8.6%	32%	18%
5.9%	64%	41%
5.0%	96%	77%
4.9%	111%	100%
5.2%	111%	106%
5.4%	108%	103%
5.6%	101%	97%
6.4%	88%	86%
7.6%	74%	73%
9.4%	59%	57%
8.1%	64%	57%
4.8%	89%	81%
3.2%	105%	95%
2.7%	110%	83%
2.1%	130%	74%
1.5%	144%	70%
0.9%	156%	74%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	339	561	626
01:00-01:59	263	379	398
02:00-02:59	285	340	324
03:00-03:59	405	317	237
04:00-04:59	928	468	292
05:00-05:59	2,334	758	461
06:00-06:59	4,419	1,251	718
07:00-07:59	6,110	1,970	1,125
08:00-08:59	4,162	2,679	1,715
09:00-09:59	3,519	3,392	2,711
10:00-10:59	3,502	3,875	3,487
11:00-11:59	3,683	4,098	3,900
12:00-12:59	3,846	4,163	3,980
13:00-13:59	3,995	4,030	3,858
14:00-14:59	4,523	3,995	3,902
15:00-15:59	5,424	4,031	3,949
16:00-16:59	6,705	3,938	3,799
17:00-17:59	5,753	3,665	3,275
18:00-18:59	3,433	3,058	2,788
19:00-19:59	2,287	2,393	2,176
20:00-20:59	1,882	2,073	1,563
21:00-21:59	1,512	1,963	1,115
22:00-22:59	1,050	1,518	732
23:00-23:59	641	1,002	474
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	185,474	16,321	0	201,795
Total Volume	355,000	55,916	47,604	458,520
				44%

ATTACHMENT H1
SHORT-TERM BUILD ALTERNATIVE: MAINLINE MERGE REVISIONS

I-41 IHSDM Analysis: Short-Term Build Alternative Interchange and Ramp Connection Summary

SHORT-TERM BUILD ALTERNATIVE

July 2019 (Draft)

= geometric changes proposed for Short-Term Build Alternative (as of June 27, 2019)

Interchange	Interchange Station	Ramp Type	Approximate Length (ft)	# Lanes	Gore Station	Gore to Taper Length (ft)	Side of Road	Part of weave?	Notes
CTH BB	429+50	NB Exit	1,060	1	419+00	1,000	Right	No	
		NB Entrance	1,575	1	445+35	720	Right	No	
		SB Exit	1,150	1	441+50	640	Left	No	
		SB Entrance	1,070	1	419+10	1,210	Left	No	
STH 125	495+20	NB Exit	1,100	1	483+95	660	Right	No	
		NB Entrance	1,540	1	510+55		Right	Yes	
		SB Exit	1,020	2	505+55	390	Left	Yes	Gore-to-taper length is for left offramp lane
		SB Entrance	1,740	1	477+75	540	Left	No	
STH 96	536+25	NB Exit	1,260	2	523+00	310	Right	Yes	Gore-to-taper length is for left offramp lane
		NB Entrance	1,400	1	550+75	330	Right	No	
		SB Exit	970	1	546+35	620	Left	No	
		SB Entrance	1,400	1	521+85		Left	Yes	
STH 15	590+75	NB Exit	1,420	1	576+30		Right	No	Drop Lane
		NB Entrance	1,250	1	603+65	1,050	Right	No	Increased from 890'
		SB Exit	1,800	1	605+10	530	Left	No	
		SB Entrance	1,490	1	591+30		Left	No	Add Lane
STH 47	747+80	NB Exit	1,200	1	735+45	1,690	Right	No	Gore-to-taper length is zero for IHSDM model*
		NB Entrance	1,140	1	759+40	1,270	Right	No	
		SB Exit	1,400	1	762+30	1,670	Left	No	Gore-to-taper length is zero for IHSDM model*
		SB Entrance	1,180	1	735+85	0	Left	Yes	2500' gore-taper distances is treated as a thru lane*
CTH E	853+60	NB Exit	970	1	843+80	460	Right	No	
		NB Entrance	980	1	863+60		Right	Yes	
		SB Exit	960	1	863+45		Left	Yes	
		SB Entrance	910	1	844+30	1,560	Left	Yes	Increased from 680'
STH 441	903+25	NB Exit	2,150	1	890+25		Right	Yes	Length measured as I-41 gore to STH 441 gore
		NB Entrance	2,120	1	917+20	560	Right	No	Length measured as STH 441 gore to I-41 gore
		SB Exit	1,700	1	904+25	345	Left	No	Gore on I-41 to beginning 2-lane taper on 441
		SB Entrance	1,370	1	884+15		Left	Yes	Two lane ending on STH 441 to I-41 to gore
CTH N	1016+00	NB Exit	910	1	1006+65	410	Right	No	
		NB Entrance	1,120	1	1027+30	400	Right	No	
		SB Exit	1,110	1	1027+45	320	Left	No	
		SB Entrance	1,000	1	1006+00	1,560	Left	No	Increased from 580'
STH 55	1123+60	NB Exit	1,190	1	1112+20	710	Right	No	
		NB Entrance	1,120	1	1135+75	490	Right	No	
		SB Exit	920	1	1131+50	310	Left	No	
		SB Entrance	820	1	1114+35	590	Left	No	
CTH J	1187+40	NB Exit	1,000	1	1175+85	260	Right	No	
		NB Entrance	970	1	1196+10	380	Right	No	
		SB Exit	860	1	1197+20	470	Left	No	
		SB Entrance	1,190	1	1176+35	380	Left	No	
Weigh Station	1374+20	NB Exit	1,600	1	1357+80	200	Right	No	
		NB Entrance	705	1	1382+15		Right	Yes	
CTH U	1410+90	NB Exit	1,020	1	1397+75	200	Right	Yes	
		NB Entrance	1,630	1	1424+25	600	Right	No	
		SB Exit	1,170	1	1425+00	180	Left	No	
		SB Entrance	1,760	1	1395+60	750	Left	No	
CTH S	1567+20	NB Exit	1,420	1	1554+10	180	Right	No	
		NB Entrance	1,620	1	1584+60	960	Right	No	Increased from 580'
		SB Exit	1,480	1	1580+90	200	Left	No	
		SB Entrance	1,370	1	1552+20	770	Left	No	

**Gore-to-taper lengths over 0.30 miles (1,584') must be coded as thru lanes per the HSM definitions. See technical memo for more discussion.*

I-41 IHSDM Analysis: General Purpose Lane Summary

July 2019 (Draft)

SHORT-TERM BUILD ALTERNATIVE

= geometric changes proposed for Short-Term Build Alternative (as of June 27, 2019)

Increasing Stations: I-41 NB (Right)

Stationing			General Purpose Lane Widths (feet)						Aux Lane					Parallel Merge/Diverge				
			Lane 1 (Median)		Lane 2 (Center)		Lane 3 (Right)		Aux lane width (ft)		Type of Weave (A, B, or C)	Aux Lane Length (ft)	Count Aux lane as thru?	Location	Gore to Taper Length (ft)	Lane Width End	Count as thru?	Ramp Measurement Notes
Start	*End*	*Location*	*Start*	*End*	*Start*	*End*	*Start*	*End*	*Start*	*End*								
		USH 10 to CTH BB	12.0	12.0	12.0	12.0	12.0	12.0	---	---	---	---	---					
		CTH BB Exit												409+10 to 419+00	1,000	15	Taper	
		CTH BB	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH BB Entrance												445+35 to 452+55	720	15	Taper	
		STH 125/CTH CA Exit												477+35 to 483+95	660	15	Taper	
		CTH BB to STH 125/CTH CA	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 125/CTH CA	12.0	12.0	12.0	12.0	12.0	12.0										
510+55	523+00	STH 125/CTH CA to STH 96	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	B	1,245	No					
		STH 96 Exit												519+85 to 523+00	310	15	Taper	
		STH 96	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 96 Entrance												550+75 to 554+05	330	15	Taper	
		STH 96 to STH 15	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 15 Exit												576+30		15		Drop Lane
		STH 15	12.0	12.0	12.0	12.0												
		STH 15 Entrance												603+65 to 614+15	1,050	15	No	Accel lane 603+65 to 610+55 (690')
		STH 15 to STH 47	12.0	12.0	12.0	12.0												
		STH 47 Exit												718+60 to 735+45*	1,685	12	**Yes**	Dist > 0.30 mi. Taper = 360'
		STH 47	12.0	12.0	12.0	12.0								**Taper = 718+60 to 722+20*				
		STH 47 Entrance												759+35 to 772+10	1,270	15		
		STH 47 to CTH E	12.0	12.0	12.0	12.0												
		CTH E Exit												839+25 to 843+80	460	15		
		CTH E	12.0	12.0	12.0	12.0												
863+60	890+25	CTH E to STH 441	12.0	12.0	12.0	12.0			12.0	12.0	A	2,665	No					
		STH 441	12.0	12.0	12.0	12.0												
		STH 441 Entrance												917+20 to 922+85	560	15		
		STH 441 to CTH N	12.0	12.0	12.0	12.0												
		CTH N Exit												1002+55 to 1006+65	410	15		
		CTH N	12.0	12.0	12.0	12.0												
		CTH N Entrance												1027+30 to 1031+35	400	15		
		CTH N to STH 55	12.0	12.0	12.0	12.0												
		STH 55 Exit												1105+15 to 1112+20	710	15		
		STH 55	12.0	12.0	12.0	12.0												
		STH 55 Entrance												1135+75 to 1140+65	490	15		
		STH 55 to CTH J	12.0	12.0	12.0	12.0												
		CTH J Exit												1173+25 to 1175+85	260	15		
		CTH J	12.0	12.0	12.0	12.0												
		CTH J Entrance												1196+07 to 1199+90	380	15		
		CTH J to CTH U	12.0	12.0	12.0	12.0												
		Weigh Station Exit												1355+75 to 1357+80	200	15	Taper	
1382+15	1404+15	Weigh Station Entrance							12.0	12.0	B	2,200	No					
		CTH U Exit												1395+75 to 1397+75	200	15	Taper	
		CTH U	12.0	12.0	12.0	12.0								1404+15 to 1408+10	395	12	Taper	
		CTH U Entrance												1424+25 to 1430+30	600	15	Taper	
		CTH U to CTH S	12.0	12.0	12.0	12.0												
		CTH S Exit												1552+30 to 1554+10	180	15	Taper	
		CTH S	12.0	12.0	12.0	12.0												
		CTH S Entrance												1590+60 to 1594+20	960	15	No	Accel lane 1584+60 to 1590+60 (600')
		CTH S to CTH F	12.0	12.0	12.0	12.0												

I-41 IHSDM Analysis: General Purpose Lane Summary

July 2019 (Draft)

= geometric changes proposed for Short-Term Build Alternative (as of June 27, 2019)

Decreasing Stations: I-41 SB (Left)

Stationing			General Purpose Lane Widths (feet)						Aux Lane					Parallel Merge/Diverge				
			Lane 1 (Median)		Lane 2 (Center)		Lane 3 (Right)		Aux lane width (ft)		Type of Weave	Aux Lane	Count Aux	Location	Gore to Taper	Lane Width	Count as thru?	Ramp Measurement Notes
Start	*End*	*Location*	*Start*	*End*	*Start*	*End*	*Start*	*End*	*Start*	*End*	(A, B, or C)	Length (ft)	lane as thru?		Length (ft)	End		
		USH 10 to CTH BB	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH BB Entrance												406+85 to 419+10	1,210	15	Taper	
		CTH BB	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH BB Exit												441+50 to 447+85	640	15		
		CTH BB to STH 125/CTH CA	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 125 Entrance												472+35 to 477+75	540	15		
		STH 125/CTH CA	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 125 Exit												505+55 to 509+50	390	12		
505+55	521+85	STH 125/CTH CA to STH 96	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	B	1,630	No					
		STH 96 Exit												546+35 to 552+50	620	15		
		STH 96	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 96 to STH 15	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 15	12.0	12.0	12.0	12.0												
		STH 15 Exit												605+10 to 610+30	530	15		
		STH 15 to STH 47	12.0	12.0	12.0	12.0												
		STH 47 Entrance												710+85 to 735+85	2,500	15	Yes	Accel Lane 714+45 to 735+85 (2,140')
		STH 47	12.0	12.0	12.0	12.0												
		STH 47 Exit												762+30 to 779+00*	1,670	12	Yes	Dist > 0.30 mi. Taper = 360'
		STH 47 to CTH E	12.0	12.0	12.0	12.0								**Taper = 779+00 to 775+40*				
		CTH E Entrance												828+70 to 844+30	1,560	15	No (Close)	Accel Lane 832+30 to 844+30 (1,200')
		CTH E	12.0	12.0	12.0	12.0												
863+45	884+15	CTH E to STH 441	12.0	12.0	12.0	12.0			12.0	12.0	A	2,070	No					
		STH 441	12.0	12.0	12.0	12.0												
		STH 441 Exit												904+25 to 910+25	600	15		
		STH 441 to CTH N	12.0	12.0	12.0	12.0												
		CTH N Entrance												990+40 to 1006+00	1,560	15	No (Close)	Accel Lane 994+00 to 1006+00 (1,200')
		CTH N	12.0	12.0	12.0	12.0												
		CTH N Exit												1027+45 to 1030+60	320	15		
		CTH N to STH 55	12.0	12.0	12.0	12.0												
		STH 55 Entrance												1108+40 to 1114+35	590	15		
		STH 55	12.0	12.0	12.0	12.0												
		STH 55 Exit												1131+55 to 1134+65	310	15		
		STH 55 to CTH J	12.0	12.0	12.0	12.0												
		CTH J Entrance												1172+55 to 1176+35	380	15		
		CTH J	12.0	12.0	12.0	12.0												
		CTH J Exit												1197+20 to 1201+95	470	15		
		CTH J to CTH U	12.0	12.0	12.0	12.0												
		CTH U Entrance												1338+15 to 1395+65	750	15		
		CTH U	12.0	12.0	12.0	12.0												
		CTH U Exit												1425+00 to 1426+80	180	15		
		CTH U to CTH S	12.0	12.0	12.0	12.0												
		CTH S Entrance												1544+40 to 1552+20	770	15		
		CTH S	12.0	12.0	12.0	12.0												
		CTH S Exit												1580+90 to 1582+90	200	15		
		CTH S to CTH F	12.0	12.0	12.0	12.0												

I-41 IHSDM Analysis: Outside Barrier and Clear Zone Summary

SHORT-TERM BUILD ALTERNATIVE

July 2019 (Draft)

= geometric changes proposed for Short-Term Build Alternative (as of June 27, 2019)

Decreasing Stations: I-41 SB (Left)

Stationing			Input
Start	*End*	*Side of Road*	*Offset (ft)*
39517.00	39685.00	Left	12.0
42851.00	43070.00	Left	10.0
43070.00	43386.00	Left	10.0
47177.00	47456.00	Left	10.0
49409.00	49633.00	Left	10.0
49633.00	49954.00	Left	10.0
50607.00	52017.00	Left	26.0
52252.00	52562.00	Left	28.0
53110.00	53518.00	Left	10.0
53518.00	53738.00	Left	10.0
53738.00	54321.00	Left	10.0
54563.00	55271.00	Left	20.0
55271.00	55504.00	Left	12.0
55504.00	55741.00	Left	12.0
55741.00	56062.00	Left	12.0
61676.00	61726.00	Left	10.0
61726.00	62181.00	Left	10.0
68240.00	69178.00	Left	10.0
69178.00	69328.00	Left	7.0
69328.00	69462.00	Left	4.0
69462.00	69612.00	Left	7.0
69612.00	70566.00	Left	10.0
70566.00	70716.00	Left	7.0
70716.00	70824.00	Left	4.0
70824.00	70974.00	Left	7.0
70974.00	71468.00	Left	16.0
74734.00	74842.00	Left	10.0
74842.00	75224.00	Left	10.0
76515.00	76694.00	Left	22.0
82738.00	83030.00	Left	13.0

Increasing Stations: I-41 NB (Right)

Stationing			Input
Start	*End*	*Side of Road*	*Offset (ft)*
39493.00	39661.00	Right	10.0
40471.00	40791.00	Right	10.0
40791.00	40891.00	Right	10.0
40891.00	41191.00	Right	16.0
41191.00	41855.00	Right	22.0
41855.00	41912.00	Right	26.0
42495.00	42817.00	Right	10.0
42817.00	43030.00	Right	10.0
44269.00	44595.00	Right	27.0
44595.00	45255.00	Right	18.0
45255.00	47592.00	Right	12.0
47949.00	48270.00	Right	17.5
48270.00	48398.00	Right	22.5
48398.00	48443.00	Right	27.5
49085.00	49406.00	Right	10.0
49406.00	49628.00	Right	10.0
49628.00	49999.00	Right	10.0
51059.00	51871.00	Right	24.0
51871.00	52100.00	Right	27.0
52834.00	53517.00	Right	10.0
53517.00	53738.00	Right	10.0
53738.00	54396.00	Right	10.0
54866.00	55380.00	Right	21.0
55380.00	55616.00	Right	12.0
55616.00	56849.00	Right	12.0
61347.00	61774.00	Right	9.0
61774.00	61824.00	Right	9.0
68336.00	69179.00	Right	10.0
69179.00	69329.00	Right	7.0
69329.00	69463.00	Right	4.0

I-41 IHSDM Analysis: Outside Barrier and Clear Zone Summary

SHORT-TERM BUILD ALTERNATIVE

July 2019 (Draft)

= geometric changes proposed for Short-Term Build Alternative (as of June 27, 2019)

Decreasing Stations: I-41 SB (Left)

Stationing			Input
Start	*End*	*Side of Road*	*Offset (ft)*
86616.00	86795.00	Left	22.0
88320.00	88499.00	Left	23.5
92886.00	93177.00	Left	11.0
96299.00	96349.00	Left	10.0
96349.00	97156.00	Left	10.0
98944.00	98993.00	Left	10.0
98993.00	99276.00	Left	14.0
99860.00	100151.00	Left	23.0
104224.00	104274.00	Left	10.0
104274.00	104544.00	Left	10.0
108149.00	108197.00	Left	10.0
108197.00	108493.00	Left	10.0
112276.00	112391.00	Left	10.0
112391.00	112849.00	Left	10.0
113169.00	113524.00	Left	20.0
113524.00	113630.00	Left	10.0
113630.00	114549.00	Left	10.0
117241.00	117381.00	Left	11.5
118735.00	118819.00	Left	10.0
118819.00	119214.00	Left	10.0
124463.00	124995.00	Left	10.0
124995.00	125140.00	Left	10.0
125140.00	125395.00	Left	10.0
132105.00	132261.00	Left	10.0
132261.00	132516.00	Left	10.0
141012.00	141295.00	Left	10.0
141295.00	141987.00	Left	10.0
143561.00	143708.00	Left	10.0
143708.00	143963.00	Left	10.0
148437.00	151240.00	Left	10.0

Increasing Stations: I-41 NB (Right)

Stationing			Input
Start	*End*	*Side of Road*	*Offset (ft)*
69463.00	69613.00	Right	7.0
69613.00	70567.00	Right	10.0
70567.00	70717.00	Right	7.0
70717.00	70824.00	Right	4.0
70824.00	70974.00	Right	7.0
70974.00	71364.00	Right	10.0
72989.00	73167.00	Right	22.0
74357.00	74724.00	Right	10.0
74724.00	74834.00	Right	10.0
82489.00	82779.00	Right	10.0
86531.00	86734.00	Right	22.0
88654.00	88831.00	Right	22.0
92652.00	92943.00	Right	10.0
95998.00	96294.00	Right	10.0
96294.00	96343.00	Right	10.0
96662.00	96953.00	Right	10.0
98643.00	98938.00	Right	10.0
98938.00	98988.00	Right	10.0
99606.00	99898.00	Right	10.0
103924.00	104219.00	Right	10.0
104219.00	104270.00	Right	10.0
107849.00	108144.00	Right	10.0
108144.00	108196.00	Right	10.0
111928.00	112320.00	Right	10.0
112320.00	112439.00	Right	10.0
112439.00	112982.00	Right	10.0
113384.00	113467.00	Right	28.0
113467.00	113581.00	Right	24.0
113581.00	114221.00	Right	16.0
117043.00	117183.00	Right	10.0

I-41 IHSDM Analysis: Outside Barrier and Clear Zone Summary

SHORT-TERM BUILD ALTERNATIVE

July 2019 (Draft)

= geometric changes proposed for Short-Term Build Alternative (as of June 27, 2019)

Decreasing Stations: I-41 SB (Left)

Stationing			Input
Start	*End*	*Side of Road*	*Offset (ft)*
161211.00	161339.00	Left	10.0
161339.00	161593.00	Left	10.0

Increasing Stations: I-41 NB (Right)

Stationing			Input
Start	*End*	*Side of Road*	*Offset (ft)*
118286.00	118655.00	Right	10.0
118655.00	118736.00	Right	10.0
124767.00	125024.00	Right	10.0
125024.00	125171.00	Right	10.0
131921.00	132175.00	Right	10.0
132175.00	132331.00	Right	10.0
138371.00	138542.00	Right	22.0
139308.00	139455.00	Right	22.0
140293.00	140885.00	Right	16.0
140885.00	141162.00	Right	10.0
143303.00	143558.00	Right	10.0
143558.00	143726.00	Right	10.0
147646.00	147730.00	Right	10.0
147730.00	149257.00	Right	10.0
160956.00	161207.00	Right	8.0
161207.00	161335.00	Right	8.0
161335.00	161857.00	Right	8.0

ATTACHMENT H2
SHORT-TERM BUILD ALTERNATIVE: HIGH-VOLUME HOUR WORKSHEETS

I-41 IHSDM Analysis: 2028 Traffic Input Summary (Daily Volumes and High-Volume Hours)

May 2019 (Draft)

SHORT-TERM BUILD ALTERNATIVE

	IHSDM AADT Volume Inputs									
Segment	**Station Start**	**Station End**	**Year**	**2-way AADT (vpd)**	**Mainline Description**	**Ramp Notes**	**Weekday Trends (Count #)**	**Weekend Trends (ATR #)**	**# Lanes (2-way)**	**Percent High Volume Hours***
1a	392+00	419+00	2028	79,950	South of CTH BB		ATR 1	ATR 1	6	0.25
1b	419+00	419+10	2028	73,750	CTH BB southern ramps, between gores	Includes SB on, Excludes NB off		(6-lane)	6	0.07
2a	419+10	441+50	2028	68,500	At CTH BB				6	0.07
2b	441+50	445+35	2028	74,250	CTH BB northern ramps, between gores	Includes SB off, Excludes NB on	CC 1		6	0.07
2c	445+35	477+75	2028	80,100	CTH BB to STH 125				6	0.19
2d	477+75	483+95	2028	72,500	STH 125 southern ramps, between gores	Includes NB off, Excludes SB on		ATR 2	6	0.07
3a	483+95	505+55	2028	63,100	At STH 125			(6-lane)	6	0.00
3b	505+55	510+55	2028	68,050	STH 125 northern ramps, between gores	Includes SB off, Excludes NB on	ATR 2		6	0.07
3c	510+55	521+85	2028	73,400	STH 125 to STH 96				6	0.13
3d	521+85	523+00	2028	66,250	STH 96 southern ramps, between gores	Includes NB off, Excludes SB on			6	0.00
4a	523+00	546+35	2028	58,700	At STH 96				6	0.00
4b	546+35	550+75	2028	64,950	STH 96 northern ramps, between gores	Includes SB off, Excludes NB on	ATR 3	ATR 3	6	0.00
4c	550+75	576+30	2028	71,100	STH 96 to STH 15			(6-lane)	6	0.07
4d	576+30	591+30	2028	62,600	STH 15 southern ramps, between gores	Includes SB on, Excludes NB off			5	0.07
5a	591+30	603+65	2028	56,150	At STH 15				4	0.25
5b	603+65	605+10	2028	64,700	STH 15 northern ramps, between gores	Includes NB on, Excludes SB off	CC 2		4	0.30
5c	605+10	735+45	2028	75,200	STH 15 to STH 47				4	0.56
5d	735+45	735+85	2028	69,450	STH 47 southern ramps, between gores	Includes SB on, Excludes NB off			4	0.41
6a	735+85	759+40	2028	63,000	At STH 47				4	0.31
6b	759+40	762+30	2028	70,250	STH 47 northern ramps, between gores	Includes NB on, Excludes SB off	CC 3	ATR 4	4	0.41
6c	762+30	843+80	2028	77,550	STH 47 to CTH E			(4-lane)	4	0.68
6d	843+80	844+30	2028	69,700	CTH E southern ramps, between gores	Includes SB on, Excludes NB off			4	0.40
7a	844+30	863+45	2028	61,150	At CTH E				4	0.31
7b	863+45	863+60	2028	69,150	CTH E northern ramps, between gores	Includes SB off, Excludes NB on	ATR 4		4	0.47
7c	863+60	884+15	2028	79,850	CTH E to STH 441				4	0.69
7d	884+15	890+25	2028	65,050	STH 441 southern ramps, between gores	Includes NB off, Excludes SB on			4	0.32
8a	890+25	904+25	2028	52,150	At STH 441				4	0.26
8b	904+25	917+20	2028	61,050	STH 441 northern ramps, between gores	Includes SB off, Excludes NB on	ATR 5		4	0.26
8c	917+20	1006+00	2028	68,350	STH 441 to CTH N				4	0.36
8d	1006+00	1006+65	2028	62,950	CTH N southern ramps, between gores	Includes NB off, Excludes SB on		ATR 5	4	0.31
9a	1006+65	1027+30	2028	57,800	At CTH N			(4-lane)	4	0.26
9b	1027+30	1027+45	2028	60,200	CTH N northern ramps, between gores	Includes NB on, Excludes SB off	CC 4		4	0.26
9c	1027+45	1112+20	2028	63,250	CTH N to STH 55				4	0.31
9d	1112+20	1114+35	2028	59,350	STH 55 southern ramps, between gores	Includes NB off, Excludes SB on			4	0.26
10a	1114+35	1131+50	2028	55,350	At STH 55				4	0.27
10b	1131+50	1135+75	2028	57,300	STH 55 northern ramps, between gores	Includes SB off, Excludes NB on	CC 5		4	0.27
10c	1135+75	1175+85	2028	58,850	STH 55 to CTH J				4	0.27
10d	1175+85	1176+35	2028	55,250	CTH J southern ramps, between gores	Includes SB on, Excludes NB off			4	0.27
11a	1176+35	1196+10	2028	51,550	At CTH J				4	0.21
11b	1196+10	1197+20	2028	54,800	CTH J northern ramps, between gores	Includes NB on, Excludes SB off			4	0.26
11c	1197+20	1357+80	2028	57,900	CTH J to weigh station		CC 6	ATR 6	4	0.26
11d	1357+80	1382+15	2028	57,750	At weigh station	Excludes weigh station volume (150 vpd)		(4-lane)	4	0.26
11e	1382+15	1395+60	2028	57,900	Weigh station to CTH U				4	0.26
11f	1395+60	1397+75	2028	56,150	CTH U southern ramps, between gores	Includes NB off, Excludes SB on			4	0.26
12a	1397+75	1424+25	2028	54,850	At CTH U				4	0.26
12b	1424+25	1425+00	2028	57,150	CTH U northern ramps, between gores	Includes NB on, Excludes SB off	ATR 6		4	0.26
12c	1425+00	1552+20	2028	59,550	CTH U to CTH S				4	0.26
12d	1552+20	1554+10	2028	57,200	CTH S southern ramps, between gores	Includes NB off, Excludes SB on			4	0.26
13a	1554+10	1580+90	2028	55,400	At CTH S				4	0.26
13b	1580+90	1584+60	2028	58,600	CTH S northern ramps, between gores	Includes SB off, Excludes NB on	ATR 7	ATR 7	4	0.26
13c	1584+60	1736+57	2028	62,200	CTH S to CTH F			(4-lane)	4	0.26

# of Lanes for High-Volume Hour calculation = to No-Build

Prefixes: CC = Coverage Count, ATR = Automatic Traffic Recorder

I-41 IHSDM Analysis: 2028 Traffic Input Summary (Daily Volumes and High-Volume Hours)

SHORT-TERM BUILD ALTERNATIVE

July 2019 (Draft)

= **Sensitivity test:** Extended merge lengths treated as a thru lane for high-volume hour calculations

# of Lanes Increased for High-Volume Hour calculation

	IHSDM AADT Volume Inputs									
Segment	Station Start	Station End	Year	2-way AADT (vpd)	Mainline Description	Ramp Notes	Weekday Trends (Count #)	Weekend Trends (ATR #)	# Lanes (2-way)	Percent High Volume Hours*
1a	392+00	419+00	2028	79,950	South of CTH BB		ATR 1	ATR 1	6	0.25
1b	419+00	419+10	2028	73,750	CTH BB southern ramps, between gores	Includes SB on, Excludes NB off		(6-lane)	6	0.07
2a	419+10	441+50	2028	68,500	At CTH BB				6	0.07
2b	441+50	445+35	2028	74,250	CTH BB northern ramps, between gores	Includes SB off, Excludes NB on	CC 1		6	0.07
2c	445+35	477+75	2028	80,100	CTH BB to STH 125				6	0.19
2d	477+75	483+95	2028	72,500	STH 125 southern ramps, between gores	Includes NB off, Excludes SB on		ATR 2	6	0.07
3a	483+95	505+55	2028	63,100	At STH 125			(6-lane)	6	0.00
3b	505+55	510+55	2028	68,050	STH 125 northern ramps, between gores	Includes SB off, Excludes NB on	ATR 2		6	0.07
3c	510+55	521+85	2028	73,400	STH 125 to STH 96				6	0.13
3d	521+85	523+00	2028	66,250	STH 96 southern ramps, between gores	Includes NB off, Excludes SB on			6	0.00
4a	523+00	546+35	2028	58,700	At STH 96				6	0.00
4b	546+35	550+75	2028	64,950	STH 96 northern ramps, between gores	Includes SB off, Excludes NB on	ATR 3	ATR 3	6	0.00
4c	550+75	576+30	2028	71,100	STH 96 to STH 15			(6-lane)	6	0.07
4d	576+30	591+30	2028	62,600	STH 15 southern ramps, between gores	Includes SB on, Excludes NB off			5	0.07
5a	591+30	603+65	2028	56,150	At STH 15				4	0.25
5b	603+65	605+10	2028	64,700	STH 15 northern ramps, between gores	Includes NB on, Excludes SB off			4	0.30
5c	605+10	710+85	2028	75,200	STH 15 to STH 47		CC 2		4	0.56
5c (5 ln)	710+85	735+45	2028	75,200	STH 15 to STH 47				5	0.25
5d (5 ln)	735+45	735+85	2028	69,450	STH 47 southern ramps, between gores	Includes SB on, Excludes NB off			5	0.25
6a	735+85	759+40	2028	63,000	At STH 47				4	0.31
6b	759+40	762+30	2028	70,250	STH 47 northern ramps, between gores	Includes NB on, Excludes SB off		ATR 4	4	0.41
6c	762+30	828+70	2028	77,550	STH 47 to CTH E		CC 3	(4-lane)	4	0.68
6c (5 ln)	828+70	843+80	2028	77,550	STH 47 to CTH E				5	0.26
6d	843+80	844+30	2028	69,700	CTH E southern ramps, between gores	Includes SB on, Excludes NB off			4	0.40
7a	844+30	863+45	2028	61,150	At CTH E				4	0.31
7b	863+45	863+60	2028	69,150	CTH E northern ramps, between gores	Includes SB off, Excludes NB on	ATR 4		4	0.47
7c	863+60	884+15	2028	79,850	CTH E to STH 441				4	0.69
7d	884+15	890+25	2028	65,050	STH 441 southern ramps, between gores	Includes NB off, Excludes SB on			4	0.32
8a	890+25	904+25	2028	52,150	At STH 441				4	0.26
8b	904+25	917+20	2028	61,050	STH 441 northern ramps, between gores	Includes SB off, Excludes NB on			4	0.26
8c	917+20	990+40	2028	68,350	STH 441 to CTH N		ATR 5		4	0.36
8c (5 ln)	990+40	1006+00	2028	68,350	STH 441 to CTH N				5	0.26
8d	990+40	1006+65	2028	62,950	CTH N southern ramps, between gores	Includes NB off, Excludes SB on		ATR 5	4	0.31
9a	1006+65	1027+30	2028	57,800	At CTH N			(4-lane)	4	0.26
9b	1027+30	1027+45	2028	60,200	CTH N northern ramps, between gores	Includes NB on, Excludes SB off	CC 4		4	0.26
9c	1027+45	1112+20	2028	63,250	CTH N to STH 55				4	0.31
9d	1112+20	1114+35	2028	59,350	STH 55 southern ramps, between gores	Includes NB off, Excludes SB on			4	0.26
10a	1114+35	1131+50	2028	55,350	At STH 55				4	0.27
10b	1131+50	1135+75	2028	57,300	STH 55 northern ramps, between gores	Includes SB off, Excludes NB on	CC 5		4	0.27
10c	1135+75	1175+85	2028	58,850	STH 55 to CTH J				4	0.27
10d	1175+85	1176+35	2028	55,250	CTH J southern ramps, between gores	Includes SB on, Excludes NB off			4	0.27
11a	1176+35	1196+10	2028	51,550	At CTH J				4	0.21
11b	1196+10	1197+20	2028	54,800	CTH J northern ramps, between gores	Includes NB on, Excludes SB off			4	0.26
11c	1197+20	1357+80	2028	57,900	CTH J to weigh station		CC 6	ATR 6	4	0.26
11d	1357+80	1382+15	2028	57,750	At weigh station	Excludes weigh station volume (150 vpd)		(4-lane)	4	0.26
11e	1382+15	1395+60	2028	57,900	Weigh station to CTH U				4	0.26
11f	1395+60	1397+75	2028	56,150	CTH U southern ramps, between gores	Includes NB off, Excludes SB on			4	0.26
12a	1397+75	1424+25	2028	54,850	At CTH U				4	0.26
12b	1424+25	1425+00	2028	57,150	CTH U northern ramps, between gores	Includes NB on, Excludes SB off			4	0.26
12c	1425+00	1552+20	2028	59,550	CTH U to CTH S		ATR 6		4	0.26
12d	1552+20	1554+10	2028	57,200	CTH S southern ramps, between gores	Includes NB off, Excludes SB on			4	0.26
13a	1554+10	1580+90	2028	55,400	At CTH S				4	0.26
13b	1580+90	1584+60	2028	58,600	CTH S northern ramps, between gores	Includes SB off, Excludes NB on	ATR 7	ATR 7	4	0.26
13c	1584+60	1736+57	2028	62,200	CTH S to CTH F			(4-lane)	4	0.26

Prefixes: CC = Coverage Count, ATR = Automatic Traffic Recorder

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

2028 No-Build and Build Conditions

DRAFT

Segment	5c
Target AADT	75,200

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	**166**			**246**			**257**
01:00-01:59	133	103	**236**			**297**			**296**
02:00-02:59	145	123	**268**			**292**			**278**
03:00-03:59	131	297	**428**			**321**			**216**
04:00-04:59	299	632	**931**			**417**			**251**
05:00-05:59	897	1,317	**2,214**			**766**			**477**
06:00-06:59	1,516	2,590	**4,106**			**1,210**			**665**
07:00-07:59	2,254	3,558	**5,812**			**1,965**			**1,149**
08:00-08:59	1,836	2,456	**4,292**			**2,784**			**1,803**
09:00-09:59	1,575	2,025	**3,600**			**3,509**			**2,725**
10:00-10:59	1,596	1,993	**3,589**			**4,001**			**3,429**
11:00-11:59	1,820	2,028	**3,848**			**4,165**			**3,783**
12:00-12:59	1,868	2,144	**4,011**			**4,229**			**3,955**
13:00-13:59	2,042	2,227	**4,269**			**4,194**			**3,852**
14:00-14:59	2,431	2,242	**4,673**			**4,036**			**3,827**
15:00-15:59	2,788	2,568	**5,356**			**3,882**			**3,748**
16:00-16:59	3,568	3,080	**6,648**			**4,022**			**3,875**
17:00-17:59	3,118	2,874	**5,992**			**3,779**			**3,415**
18:00-18:59	1,930	1,932	**3,862**			**3,227**			**2,888**
19:00-19:59	1,430	1,226	**2,656**			**2,542**			**2,252**
20:00-20:59	1,275	937	**2,212**			**2,168**			**1,657**
21:00-21:59	1,155	733	**1,888**			**2,149**			**1,288**
22:00-22:59	656	446	**1,102**			**1,392**			**704**
23:00-23:59	317	240	**557**			**804**			**380**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
8.0%	34%	20%
5.9%	65%	42%
5.0%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.5%	105%	99%
5.9%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.1%	60%	58%
8.2%	63%	57%
5.3%	84%	75%
3.7%	96%	85%
3.0%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	172	254	266
01:00-01:59	244	307	306
02:00-02:59	277	302	287
03:00-03:59	442	332	224
04:00-04:59	963	432	260
05:00-05:59	2,290	792	493
06:00-06:59	4,247	1,252	688
07:00-07:59	6,011	2,032	1,189
08:00-08:59	4,438	2,879	1,864
09:00-09:59	3,723	3,629	2,819
10:00-10:59	3,711	4,138	3,546
11:00-11:59	3,979	4,307	3,913
12:00-12:59	4,148	4,374	4,090
13:00-13:59	4,415	4,338	3,984
14:00-14:59	4,833	4,174	3,959
15:00-15:59	5,539	4,015	3,877
16:00-16:59	6,875	4,159	4,008
17:00-17:59	6,197	3,908	3,532
18:00-18:59	3,994	3,338	2,987
19:00-19:59	2,746	2,629	2,329
20:00-20:59	2,287	2,242	1,713
21:00-21:59	1,953	2,222	1,333
22:00-22:59	1,140	1,439	728
23:00-23:59	576	832	393
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	233,516	29,505	8,098	271,120
Total Volume	376,000	58,326	48,786	483,112
				56%

I-41 IHSDM Analysis: High-Volume Hours Development

July 2019

DRAFT

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

STH 47 SB Merge treated as thru lane in this analysis, high-volume hour calculation modified from 4-lanes to 5-lanes

2028 No-Build and Build Volumes, Short-Term Alt

Segment	5d (5 ln)
Target AADT	69,450

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	**166**			**246**			**257**
01:00-01:59	133	103	**236**			**297**			**296**
02:00-02:59	145	123	**268**			**292**			**278**
03:00-03:59	131	297	**428**			**321**			**216**
04:00-04:59	299	632	**931**			**417**			**251**
05:00-05:59	897	1,317	**2,214**			**766**			**477**
06:00-06:59	1,516	2,590	**4,106**			**1,210**			**665**
07:00-07:59	2,254	3,558	**5,812**			**1,965**			**1,149**
08:00-08:59	1,836	2,456	**4,292**			**2,784**			**1,803**
09:00-09:59	1,575	2,025	**3,600**			**3,509**			**2,725**
10:00-10:59	1,596	1,993	**3,589**			**4,001**			**3,429**
11:00-11:59	1,820	2,028	**3,848**			**4,165**			**3,783**
12:00-12:59	1,868	2,144	**4,011**			**4,229**			**3,955**
13:00-13:59	2,042	2,227	**4,269**			**4,194**			**3,852**
14:00-14:59	2,431	2,242	**4,673**			**4,036**			**3,827**
15:00-15:59	2,788	2,568	**5,356**			**3,882**			**3,748**
16:00-16:59	3,568	3,080	**6,648**			**4,022**			**3,875**
17:00-17:59	3,118	2,874	**5,992**			**3,779**			**3,415**
18:00-18:59	1,930	1,932	**3,862**			**3,227**			**2,888**
19:00-19:59	1,430	1,226	**2,656**			**2,542**			**2,252**
20:00-20:59	1,275	937	**2,212**			**2,168**			**1,657**
21:00-21:59	1,155	733	**1,888**			**2,149**			**1,288**
22:00-22:59	656	446	**1,102**			**1,392**			**704**
23:00-23:59	317	240	**557**			**804**			**380**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
8.0%	34%	20%
5.9%	65%	42%
5.0%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.5%	105%	99%
5.9%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.1%	60%	58%
8.2%	63%	57%
5.3%	84%	75%
3.7%	96%	85%
3.0%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	159	235	246
01:00-01:59	225	283	282
02:00-02:59	256	279	265
03:00-03:59	408	306	207
04:00-04:59	889	399	240
05:00-05:59	2,115	731	456
06:00-06:59	3,922	1,156	635
07:00-07:59	5,551	1,876	1,098
08:00-08:59	4,099	2,659	1,722
09:00-09:59	3,439	3,352	2,603
10:00-10:59	3,428	3,822	3,275
11:00-11:59	3,675	3,978	3,614
12:00-12:59	3,831	4,039	3,778
13:00-13:59	4,078	4,006	3,679
14:00-14:59	4,463	3,855	3,656
15:00-15:59	5,115	3,708	3,580
16:00-16:59	6,349	3,841	3,702
17:00-17:59	5,723	3,609	3,262
18:00-18:59	3,688	3,082	2,758
19:00-19:59	2,536	2,428	2,151
20:00-20:59	2,112	2,070	1,582
21:00-21:59	1,803	2,052	1,231
22:00-22:59	1,053	1,329	673
23:00-23:59	532	768	363
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (5-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	113,696	0	0	113,696
Total Volume	347,250	53,866	45,056	446,172
				25%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

2028 No-Build and Build Conditions

DRAFT

Segment	6c

Target AADT	77,550

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	**178**			**263**			**275**
01:00-01:59	136	103	**238**			**300**			**299**
02:00-02:59	142	125	**267**			**291**			**277**
03:00-03:59	134	281	**414**			**311**			**209**
04:00-04:59	375	617	**992**			**445**			**268**
05:00-05:59	1,078	1,263	**2,341**			**809**			**504**
06:00-06:59	1,768	2,523	**4,291**			**1,265**			**695**
07:00-07:59	2,669	3,407	**6,076**			**2,054**			**1,201**
08:00-08:59	1,970	2,440	**4,409**			**2,860**			**1,852**
09:00-09:59	1,710	2,049	**3,759**			**3,664**			**2,845**
10:00-10:59	1,707	2,072	**3,779**			**4,213**			**3,610**
11:00-11:59	1,910	2,126	**4,036**			**4,368**			**3,968**
12:00-12:59	2,019	2,248	**4,267**			**4,498**			**4,207**
13:00-13:59	2,144	2,270	**4,414**			**4,336**			**3,983**
14:00-14:59	2,473	2,437	**4,910**			**4,241**			**4,022**
15:00-15:59	2,868	2,813	**5,680**			**4,118**			**3,976**
16:00-16:59	3,562	3,342	**6,903**			**4,176**			**4,024**
17:00-17:59	3,266	3,144	**6,410**			**4,043**			**3,653**
18:00-18:59	2,006	2,124	**4,129**			**3,451**			**3,088**
19:00-19:59	1,489	1,346	**2,835**			**2,713**			**2,403**
20:00-20:59	1,311	1,077	**2,388**			**2,341**			**1,789**
21:00-21:59	1,176	828	**2,004**			**2,281**			**1,368**
22:00-22:59	661	500	**1,161**			**1,466**			**742**
23:00-23:59	313	267	**580**			**837**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
00:00-00:59	0.2%	148%	155%
01:00-01:59	0.3%	126%	126%
02:00-02:59	0.3%	109%	104%
03:00-03:59	0.5%	75%	51%
04:00-04:59	1.3%	45%	27%
05:00-05:59	3.1%	35%	22%
06:00-06:59	5.6%	29%	16%
07:00-07:59	7.9%	34%	20%
08:00-08:59	5.8%	65%	42%
09:00-09:59	4.9%	97%	76%
10:00-10:59	4.9%	111%	96%
11:00-11:59	5.3%	108%	98%
12:00-12:59	5.6%	105%	99%
13:00-13:59	5.8%	98%	90%
14:00-14:59	6.4%	86%	82%
15:00-15:59	7.4%	72%	70%
16:00-16:59	9.0%	60%	58%
17:00-17:59	8.4%	63%	57%
18:00-18:59	5.4%	84%	75%
19:00-19:59	3.7%	96%	85%
20:00-20:59	3.1%	98%	75%
21:00-21:59	2.6%	114%	68%
22:00-22:59	1.5%	126%	64%
23:00-23:59	0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	180	267	279
01:00-01:59	241	304	303
02:00-02:59	270	295	281
03:00-03:59	420	315	212
04:00-04:59	1,006	451	271
05:00-05:59	2,374	821	512
06:00-06:59	4,352	1,283	705
07:00-07:59	6,163	2,083	1,219
08:00-08:59	4,472	2,901	1,878
09:00-09:59	3,812	3,716	2,886
10:00-10:59	3,833	4,273	3,662
11:00-11:59	4,093	4,431	4,025
12:00-12:59	4,328	4,563	4,267
13:00-13:59	4,477	4,399	4,040
14:00-14:59	4,980	4,301	4,080
15:00-15:59	5,761	4,176	4,033
16:00-16:59	7,002	4,236	4,082
17:00-17:59	6,502	4,100	3,705
18:00-18:59	4,188	3,500	3,132
19:00-19:59	2,875	2,752	2,438
20:00-20:59	2,422	2,374	1,814
21:00-21:59	2,033	2,313	1,387
22:00-22:59	1,177	1,487	752
23:00-23:59	588	849	401
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	281,592	34,479	24,526	340,597
Total Volume	387,750	60,190	50,364	498,304
				68%

I-41 IHSDM Analysis: High-Volume Hours Development

July 2019

DRAFT

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

CTH E SB Merge treated as thru lane in this analysis, high-volume hour calculation modified from 4-lanes to 5-lanes

2028 No-Build and Build Volumes, Short-Term Alt

Segment	6c (5 ln)
Target AADT	77,550

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	**178**			**263**			**275**
01:00-01:59	136	103	**238**			**300**			**299**
02:00-02:59	142	125	**267**			**291**			**277**
03:00-03:59	134	281	**414**			**311**			**209**
04:00-04:59	375	617	**992**			**445**			**268**
05:00-05:59	1,078	1,263	**2,341**			**809**			**504**
06:00-06:59	1,768	2,523	**4,291**			**1,265**			**695**
07:00-07:59	2,669	3,407	**6,076**			**2,054**			**1,201**
08:00-08:59	1,970	2,440	**4,409**			**2,860**			**1,852**
09:00-09:59	1,710	2,049	**3,759**			**3,664**			**2,845**
10:00-10:59	1,707	2,072	**3,779**			**4,213**			**3,610**
11:00-11:59	1,910	2,126	**4,036**			**4,368**			**3,968**
12:00-12:59	2,019	2,248	**4,267**			**4,498**			**4,207**
13:00-13:59	2,144	2,270	**4,414**			**4,336**			**3,983**
14:00-14:59	2,473	2,437	**4,910**			**4,241**			**4,022**
15:00-15:59	2,868	2,813	**5,680**			**4,118**			**3,976**
16:00-16:59	3,562	3,342	**6,903**			**4,176**			**4,024**
17:00-17:59	3,266	3,144	**6,410**			**4,043**			**3,653**
18:00-18:59	2,006	2,124	**4,129**			**3,451**			**3,088**
19:00-19:59	1,489	1,346	**2,835**			**2,713**			**2,403**
20:00-20:59	1,311	1,077	**2,388**			**2,341**			**1,789**
21:00-21:59	1,176	828	**2,004**			**2,281**			**1,368**
22:00-22:59	661	500	**1,161**			**1,466**			**742**
23:00-23:59	313	267	**580**			**837**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	180	267	279
01:00-01:59	241	304	303
02:00-02:59	270	295	281
03:00-03:59	420	315	212
04:00-04:59	1,006	451	271
05:00-05:59	2,374	821	512
06:00-06:59	4,352	1,283	705
07:00-07:59	6,163	2,083	1,219
08:00-08:59	4,472	2,901	1,878
09:00-09:59	3,812	3,716	2,886
10:00-10:59	3,833	4,273	3,662
11:00-11:59	4,093	4,431	4,025
12:00-12:59	4,328	4,563	4,267
13:00-13:59	4,477	4,399	4,040
14:00-14:59	4,980	4,301	4,080
15:00-15:59	5,761	4,176	4,033
16:00-16:59	7,002	4,236	4,082
17:00-17:59	6,502	4,100	3,705
18:00-18:59	4,188	3,500	3,132
19:00-19:59	2,875	2,752	2,438
20:00-20:59	2,422	2,374	1,814
21:00-21:59	2,033	2,313	1,387
22:00-22:59	1,177	1,487	752
23:00-23:59	588	849	401
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (5-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	127,139	0	0	127,139
Total Volume	387,750	60,190	50,364	498,304
				26%

I-41 IHSDM Analysis: High-Volume Hours Development

2028 No-Build and Build Conditions

DRAFT

May 2019

Segment	8c
Target AADT	68,350

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	**338**	253	259	**512**	266	281	**547**
01:00-01:59	133	121	**254**	161	174	**335**	173	181	**354**
02:00-02:59	128	140	**268**	146	162	**308**	149	150	**299**
03:00-03:59	147	239	**387**	119	176	**295**	93	119	**212**
04:00-04:59	406	475	**881**	192	219	**411**	119	131	**250**
05:00-05:59	1,120	1,081	**2,201**	373	379	**752**	244	230	**474**
06:00-06:59	1,883	2,125	**4,008**	536	613	**1,149**	313	347	**660**
07:00-07:59	2,547	2,891	**5,439**	792	947	**1,739**	484	527	**1,011**
08:00-08:59	1,796	1,974	**3,771**	1,102	1,269	**2,371**	768	778	**1,546**
09:00-09:59	1,590	1,646	**3,236**	1,458	1,569	**3,027**	1,195	1,166	**2,361**
10:00-10:59	1,624	1,650	**3,274**	1,758	1,784	**3,542**	1,427	1,548	**2,975**
11:00-11:59	1,762	1,749	**3,511**	1,901	1,856	**3,757**	1,595	1,772	**3,367**
12:00-12:59	1,852	1,833	**3,684**	1,938	1,854	**3,792**	1,690	1,822	**3,512**
13:00-13:59	1,950	1,882	**3,832**	1,871	1,790	**3,661**	1,631	1,746	**3,377**
14:00-14:59	2,212	2,070	**4,281**	1,863	1,703	**3,566**	1,637	1,775	**3,412**
15:00-15:59	2,618	2,408	**5,026**	1,861	1,693	**3,554**	1,636	1,838	**3,474**
16:00-16:59	3,120	2,856	**5,976**	1,844	1,604	**3,448**	1,632	1,748	**3,380**
17:00-17:59	2,702	2,555	**5,256**	1,733	1,494	**3,227**	1,464	1,542	**3,006**
18:00-18:59	1,631	1,506	**3,137**	1,398	1,293	**2,691**	1,214	1,275	**2,489**
19:00-19:59	1,147	954	**2,100**	1,117	979	**2,096**	946	980	**1,926**
20:00-20:59	942	785	**1,727**	957	834	**1,791**	714	724	**1,438**
21:00-21:59	731	629	**1,360**	823	820	**1,643**	522	506	**1,028**
22:00-22:59	488	483	**971**	611	689	**1,300**	325	334	**659**
23:00-23:59	294	310	**604**	393	488	**881**	189	261	**450**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	353	534	571
01:00-01:59	265	349	369
02:00-02:59	280	321	312
03:00-03:59	403	308	221
04:00-04:59	919	429	261
05:00-05:59	2,296	784	494
06:00-06:59	4,181	1,199	688
07:00-07:59	5,673	1,814	1,055
08:00-08:59	3,933	2,473	1,613
09:00-09:59	3,376	3,158	2,463
10:00-10:59	3,415	3,695	3,103
11:00-11:59	3,663	3,919	3,512
12:00-12:59	3,843	3,956	3,664
13:00-13:59	3,997	3,819	3,523
14:00-14:59	4,466	3,720	3,559
15:00-15:59	5,243	3,707	3,624
16:00-16:59	6,234	3,597	3,526
17:00-17:59	5,483	3,366	3,136
18:00-18:59	3,272	2,807	2,596
19:00-19:59	2,191	2,186	2,009
20:00-20:59	1,801	1,868	1,500
21:00-21:59	1,419	1,714	1,072
22:00-22:59	1,013	1,356	687
23:00-23:59	630	919	469
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	156,404	0	0	156,404
Total Volume	341,750	52,000	44,029	437,779
				36%

I-41 IHSDM Analysis: High-Volume Hours Development

July 2019

DRAFT

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

CTH N SB Merge treated as thru lane in this analysis, high-volume hour calculation modified from 4-lanes to 5-lanes

2028 No-Build and Build Volumes, Short-Term Alt

Segment	8c (5 ln)
Target AADT	68,350

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	**338**	253	259	**512**	266	281	**547**
01:00-01:59	133	121	**254**	161	174	**335**	173	181	**354**
02:00-02:59	128	140	**268**	146	162	**308**	149	150	**299**
03:00-03:59	147	239	**387**	119	176	**295**	93	119	**212**
04:00-04:59	406	475	**881**	192	219	**411**	119	131	**250**
05:00-05:59	1,120	1,081	**2,201**	373	379	**752**	244	230	**474**
06:00-06:59	1,883	2,125	**4,008**	536	613	**1,149**	313	347	**660**
07:00-07:59	2,547	2,891	**5,439**	792	947	**1,739**	484	527	**1,011**
08:00-08:59	1,796	1,974	**3,771**	1,102	1,269	**2,371**	768	778	**1,546**
09:00-09:59	1,590	1,646	**3,236**	1,458	1,569	**3,027**	1,195	1,166	**2,361**
10:00-10:59	1,624	1,650	**3,274**	1,758	1,784	**3,542**	1,427	1,548	**2,975**
11:00-11:59	1,762	1,749	**3,511**	1,901	1,856	**3,757**	1,595	1,772	**3,367**
12:00-12:59	1,852	1,833	**3,684**	1,938	1,854	**3,792**	1,690	1,822	**3,512**
13:00-13:59	1,950	1,882	**3,832**	1,871	1,790	**3,661**	1,631	1,746	**3,377**
14:00-14:59	2,212	2,070	**4,281**	1,863	1,703	**3,566**	1,637	1,775	**3,412**
15:00-15:59	2,618	2,408	**5,026**	1,861	1,693	**3,554**	1,636	1,838	**3,474**
16:00-16:59	3,120	2,856	**5,976**	1,844	1,604	**3,448**	1,632	1,748	**3,380**
17:00-17:59	2,702	2,555	**5,256**	1,733	1,494	**3,227**	1,464	1,542	**3,006**
18:00-18:59	1,631	1,506	**3,137**	1,398	1,293	**2,691**	1,214	1,275	**2,489**
19:00-19:59	1,147	954	**2,100**	1,117	979	**2,096**	946	980	**1,926**
20:00-20:59	942	785	**1,727**	957	834	**1,791**	714	724	**1,438**
21:00-21:59	731	629	**1,360**	823	820	**1,643**	522	506	**1,028**
22:00-22:59	488	483	**971**	611	689	**1,300**	325	334	**659**
23:00-23:59	294	310	**604**	393	488	**881**	189	261	**450**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	353	534	571
01:00-01:59	265	349	369
02:00-02:59	280	321	312
03:00-03:59	403	308	221
04:00-04:59	919	429	261
05:00-05:59	2,296	784	494
06:00-06:59	4,181	1,199	688
07:00-07:59	5,673	1,814	1,055
08:00-08:59	3,933	2,473	1,613
09:00-09:59	3,376	3,158	2,463
10:00-10:59	3,415	3,695	3,103
11:00-11:59	3,663	3,919	3,512
12:00-12:59	3,843	3,956	3,664
13:00-13:59	3,997	3,819	3,523
14:00-14:59	4,466	3,720	3,559
15:00-15:59	5,243	3,707	3,624
16:00-16:59	6,234	3,597	3,526
17:00-17:59	5,483	3,366	3,136
18:00-18:59	3,272	2,807	2,596
19:00-19:59	2,191	2,186	2,009
20:00-20:59	1,801	1,868	1,500
21:00-21:59	1,419	1,714	1,072
22:00-22:59	1,013	1,356	687
23:00-23:59	630	919	469
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (5-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	113,168	0	0	113,168
Total Volume	341,750	52,000	44,029	437,779
				26%

I-41 IHSDM Analysis: 2048 Traffic Input Summary (Daily Volumes and High-Volume Hours)

SHORT-TERM BUILD ALTERNATIVE

May 2019 (Draft)

	IHSDM AADT Volume Inputs									
Segment	**Station Start**	**Station End**	**No-Build Year**	**2-way AADT (vpd)**	**Mainline Description**	**Ramp Notes**	**Weekday Trends (Count #)**	**Weekend Trends (ATR #)**	**# Lanes (2-way)**	**Percent High Volume Hours***
1a	392+00	419+00	2048	88,950	South of CTH BB		ATR 1	ATR 1	6	0.31
1b	419+00	419+10	2048	82,550	CTH BB southern ramps, between gores	Includes SB on, Excludes NB off		(6-lane)	6	0.25
2a	419+10	441+50	2048	76,950	At CTH BB				6	0.13
2b	441+50	445+35	2048	83,500	CTH BB northern ramps, between gores	Includes SB off, Excludes NB on	CC 1		6	0.25
2c	445+35	477+75	2048	90,600	CTH BB to STH 125				6	0.25
2d	477+75	483+95	2048	82,750	STH 125 southern ramps, between gores	Includes NB off, Excludes SB on		ATR 2	6	0.25
3a	483+95	505+55	2048	73,200	At STH 125			(6-lane)	6	0.13
3b	505+55	510+55	2048	79,350	STH 125 northern ramps, between gores	Includes SB off, Excludes NB on	ATR 2		6	0.26
3c	510+55	521+85	2048	85,900	STH 125 to STH 96				6	0.26
3d	521+85	523+00	2048	77,500	STH 96 southern ramps, between gores	Includes NB off, Excludes SB on			6	0.20
4a	523+00	546+35	2048	69,150	At STH 96				6	0.07
4b	546+35	550+75	2048	76,400	STH 96 northern ramps, between gores	Includes SB off, Excludes NB on	ATR 3	ATR 3	6	0.07
4c	550+75	576+30	2048	83,200	STH 96 to STH 15			(6-lane)	6	0.25
4d	576+30	591+30	2048	73,000	STH 15 southern ramps, between gores	Includes SB on, Excludes NB off			5	0.25
5a	591+30	603+65	2048	64,850	At STH 15				4	0.30
5b	603+65	605+10	2048	76,100	STH 15 northern ramps, between gores	Includes NB on, Excludes SB off	CC 2		4	0.66
5c	605+10	722+28	2048	89,900	STH 15 to STH 47				4	0.78
5d	735+45	735+85	2048	82,100	STH 47 southern ramps, between gores	Includes SB on, Excludes NB off			4	0.76
6a	735+85	759+40	2048	73,350	At STH 47				4	0.54
6b	759+40	762+30	2048	81,900	STH 47 northern ramps, between gores	Includes NB on, Excludes SB off	CC 3	ATR 4	4	0.76
6c	775+40	843+80	2048	90,600	STH 47 to CTH E			(4-lane)	4	0.79
6d	843+80	844+30	2048	80,750	CTH E southern ramps, between gores	Includes SB on, Excludes NB off			4	0.68
7a	844+30	863+45	2048	69,950	At CTH E				4	0.50
7b	863+45	863+60	2048	80,350	CTH E northern ramps, between gores	Includes SB off, Excludes NB on	ATR 4		4	0.73
7c	863+60	884+15	2048	93,400	CTH E to STH 441				4	0.79
7d	884+15	890+25	2048	74,650	STH 441 southern ramps, between gores	Includes NB off, Excludes SB on			4	0.64
8a	890+25	904+25	2048	58,250	At STH 441				4	0.26
8b	904+25	917+20	2048	68,850	STH 441 northern ramps, between gores	Includes SB off, Excludes NB on	ATR 5		4	0.40
8c	917+20	1006+00	2048	77,250	STH 441 to CTH N				4	0.62
8d	1006+00	1006+65	2048	71,000	CTH N southern ramps, between gores	Includes NB off, Excludes SB on		ATR 5	4	0.47
9a	1006+65	1027+30	2048	64,950	At CTH N			(4-lane)	4	0.36
9b	1027+30	1027+45	2048	68,500	CTH N northern ramps, between gores	Includes NB on, Excludes SB off	CC 4		4	0.41
9c	1027+45	1112+20	2048	72,750	CTH N to STH 55				4	0.42
9d	1112+20	1114+35	2048	68,000	STH 55 southern ramps, between gores	Includes NB off, Excludes SB on			4	0.36
10a	1114+35	1131+50	2048	63,250	At STH 55				4	0.32
10b	1131+50	1135+75	2048	65,950	STH 55 northern ramps, between gores	Includes SB off, Excludes NB on	CC 5		4	0.37
10c	1135+75	1175+85	2048	68,100	STH 55 to CTH J				4	0.41
10d	1175+85	1176+35	2048	62,900	CTH J southern ramps, between gores	Includes SB on, Excludes NB off			4	0.32
11a	1176+35	1196+10	2048	57,750	At CTH J				4	0.26
11b	1196+10	1197+20	2048	61,900	CTH J northern ramps, between gores	Includes NB on, Excludes SB off			4	0.31
11c	1197+20	1357+80	2048	66,000	CTH J to weigh station		CC 6	ATR 6	4	0.31
11d	1357+80	1382+15	2048	65,850	At weigh station	Excludes weigh station volume (150 vpd)		(4-lane)	4	0.31
11e	1382+15	1395+60	2048	66,000	Weigh station to CTH U				4	0.31
11f	1395+60	1397+75	2048	63,450	CTH U southern ramps, between gores	Includes NB off, Excludes SB on			4	0.31
12a	1397+75	1424+25	2048	61,450	At CTH U				4	0.26
12b	1424+25	1425+00	2048	65,150	CTH U northern ramps, between gores	Includes NB on, Excludes SB off	ATR 6		4	0.36
12c	1425+00	1552+20	2048	68,850	CTH U to CTH S				4	0.42
12d	1552+20	1554+10	2048	65,500	CTH S southern ramps, between gores	Includes NB off, Excludes SB on			4	0.36
13a	1554+10	1580+90	2048	62,950	At CTH S			ATR 7	4	0.31
13b	1580+90	1584+60	2048	66,700	CTH S northern ramps, between gores	Includes SB off, Excludes NB on	ATR 7	(4-lane)	4	0.36
13c	1584+60	1736+57	2048	71,000	CTH S to CTH F				4	0.44

# of Lanes for High-Volume Hour calculation = to No-Build

Prefixes: CC = Coverage Count, ATR = Automatic Traffic Recorder

I-41 IHSDM Analysis: 2048 Traffic Input Summary (Daily Volumes and High-Volume Hours)

SHORT-TERM BUILD ALTERNATIVE

July 2019 (Draft)

= **Sensitivity test:** Extended merge lengths treated as a thru lane for high-volume hour calculations

# of Lanes Increased for High-Volume Hour calculation

	IHSDM AADT Volume Inputs									
Segment	Station Start	Station End	No-Build Year	2-way AADT (vpd)	Mainline Description	Ramp Notes	Weekday Trends (Count #)	Weekend Trends (ATR #)	# Lanes (2-way)	Percent High Volume Hours*
1a	392+00	419+00	2048	88,950	South of CTH BB		ATR 1	ATR 1	6	0.31
1b	419+00	419+10	2048	82,550	CTH BB southern ramps, between gores	Includes SB on, Excludes NB off		(6-lane)	6	0.25
2a	419+10	441+50	2048	76,950	At CTH BB				6	0.13
2b	441+50	445+35	2048	83,500	CTH BB northern ramps, between gores	Includes SB off, Excludes NB on	CC 1		6	0.25
2c	445+35	477+75	2048	90,600	CTH BB to STH 125				6	0.25
2d	477+75	483+95	2048	82,750	STH 125 southern ramps, between gores	Includes NB off, Excludes SB on		ATR 2	6	0.25
3a	483+95	505+55	2048	73,200	At STH 125			(6-lane)	6	0.13
3b	505+55	510+55	2048	79,350	STH 125 northern ramps, between gores	Includes SB off, Excludes NB on	ATR 2		6	0.26
3c	510+55	521+85	2048	85,900	STH 125 to STH 96				6	0.26
3d	521+85	523+00	2048	77,500	STH 96 southern ramps, between gores	Includes NB off, Excludes SB on			6	0.20
4a	523+00	546+35	2048	69,150	At STH 96				6	0.07
4b	546+35	550+75	2048	76,400	STH 96 northern ramps, between gores	Includes SB off, Excludes NB on	ATR 3	ATR 3	6	0.07
4c	550+75	576+30	2048	83,200	STH 96 to STH 15			(6-lane)	6	0.25
4d	576+30	591+30	2048	73,000	STH 15 southern ramps, between gores	Includes SB on, Excludes NB off			5	0.25
5a	591+30	603+65	2048	64,850	At STH 15				4	0.30
5b	603+65	605+10	2048	76,100	STH 15 northern ramps, between gores	Includes NB on, Excludes SB off			4	0.66
5c	605+10	710+85	2048	89,900	STH 15 to STH 47		CC 2		4	0.78
5c (5 ln)	710+85	735+45	2048	89,900	STH 15 to STH 47				5	0.47
5d (5 ln)	735+45	735+85	2048	82,100	STH 47 southern ramps, between gores	Includes SB on, Excludes NB off			5	0.30
6a	735+85	759+40	2048	73,350	At STH 47				4	0.54
6b	759+40	762+30	2048	81,900	STH 47 northern ramps, between gores	Includes NB on, Excludes SB off		ATR 4	4	0.76
6c	762+30	828+70	2048	90,600	STH 47 to CTH E		CC 3	(4-lane)	4	0.79
6c (5 ln)	828+70	843+80	2048	90,600	STH 47 to CTH E				5	0.52
6d	843+80	844+30	2048	80,750	CTH E southern ramps, between gores	Includes SB on, Excludes NB off			4	0.68
7a	844+30	863+45	2048	69,950	At CTH E				4	0.50
7b	863+45	863+60	2048	80,350	CTH E northern ramps, between gores	Includes SB off, Excludes NB on	ATR 4		4	0.73
7c	863+60	884+15	2048	93,400	CTH E to STH 441				4	0.79
7d	884+15	890+25	2048	74,650	STH 441 southern ramps, between gores	Includes NB off, Excludes SB on			4	0.64
8a	890+25	904+25	2048	58,250	At STH 441				4	0.26
8b	904+25	917+20	2048	68,850	STH 441 northern ramps, between gores	Includes SB off, Excludes NB on			4	0.40
8c	917+20	990+40	2048	77,250	STH 441 to CTH N		ATR 5		4	0.62
8c (5 ln)	990+40	1006+00	2048	77,250	STH 441 to CTH N				5	0.31
8d	1006+00	1006+65	2048	71,000	CTH N southern ramps, between gores	Includes NB off, Excludes SB on		ATR 5	4	0.47
9a	1006+65	1027+30	2048	64,950	At CTH N			(4-lane)	4	0.36
9b	1027+30	1027+45	2048	68,500	CTH N northern ramps, between gores	Includes NB on, Excludes SB off	CC 4		4	0.41
9c	1027+45	1112+20	2048	72,750	CTH N to STH 55				4	0.42
9d	1112+20	1114+35	2048	68,000	STH 55 southern ramps, between gores	Includes NB off, Excludes SB on			4	0.36
10a	1114+35	1131+50	2048	63,250	At STH 55				4	0.32
10b	1131+50	1135+75	2048	65,950	STH 55 northern ramps, between gores	Includes SB off, Excludes NB on			4	0.37
10c	1135+75	1175+85	2048	68,100	STH 55 to CTH J		CC 5		4	0.41
10d	1175+85	1176+35	2048	62,900	CTH J southern ramps, between gores	Includes SB on, Excludes NB off			4	0.32
11a	1176+35	1196+10	2048	57,750	At CTH J				4	0.26
11b	1196+10	1197+20	2048	61,900	CTH J northern ramps, between gores	Includes NB on, Excludes SB off			4	0.31
11c	1197+20	1357+80	2048	66,000	CTH J to weigh station				4	0.31
11d	1357+80	1382+15	2048	65,850	At weigh station	Excludes weigh station volume (150 vpd)	CC 6	ATR 6	4	0.31
11e	1382+15	1395+60	2048	66,000	Weigh station to CTH U			(4-lane)	4	0.31
11f	1395+60	1397+75	2048	63,450	CTH U southern ramps, between gores	Includes NB off, Excludes SB on			4	0.31
12a	1397+75	1424+25	2048	61,450	At CTH U				4	0.26
12b	1424+25	1425+00	2048	65,150	CTH U northern ramps, between gores	Includes NB on, Excludes SB off			4	0.36
12c	1425+00	1552+20	2048	68,850	CTH U to CTH S		ATR 6		4	0.42
12d	1552+20	1554+10	2048	65,500	CTH S southern ramps, between gores	Includes NB off, Excludes SB on			4	0.36
13a	1554+10	1580+90	2048	62,950	At CTH S			ATR 7	4	0.31
13b	1580+90	1584+60	2048	66,700	CTH S northern ramps, between gores	Includes SB off, Excludes NB on	ATR 7	(4-lane)	4	0.36
13c	1584+60	1736+57	2048	71,000	CTH S to CTH F				4	0.44

Prefixes: CC = Coverage Count, ATR = Automatic Traffic Recorder

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

2048 No-Build Conditions

DRAFT

Segment	5c
Target AADT	89,900

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	**166**			**246**			**257**
01:00-01:59	133	103	**236**			**297**			**296**
02:00-02:59	145	123	**268**			**292**			**278**
03:00-03:59	131	297	**428**			**321**			**216**
04:00-04:59	299	632	**931**			**417**			**251**
05:00-05:59	897	1,317	**2,214**			**766**			**477**
06:00-06:59	1,516	2,590	**4,106**			**1,210**			**665**
07:00-07:59	2,254	3,558	**5,812**			**1,965**			**1,149**
08:00-08:59	1,836	2,456	**4,292**			**2,784**			**1,803**
09:00-09:59	1,575	2,025	**3,600**			**3,509**			**2,725**
10:00-10:59	1,596	1,993	**3,589**			**4,001**			**3,429**
11:00-11:59	1,820	2,028	**3,848**			**4,165**			**3,783**
12:00-12:59	1,868	2,144	**4,011**			**4,229**			**3,955**
13:00-13:59	2,042	2,227	**4,269**			**4,194**			**3,852**
14:00-14:59	2,431	2,242	**4,673**			**4,036**			**3,827**
15:00-15:59	2,788	2,568	**5,356**			**3,882**			**3,748**
16:00-16:59	3,568	3,080	**6,648**			**4,022**			**3,875**
17:00-17:59	3,118	2,874	**5,992**			**3,779**			**3,415**
18:00-18:59	1,930	1,932	**3,862**			**3,227**			**2,888**
19:00-19:59	1,430	1,226	**2,656**			**2,542**			**2,252**
20:00-20:59	1,275	937	**2,212**			**2,168**			**1,657**
21:00-21:59	1,155	733	**1,888**			**2,149**			**1,288**
22:00-22:59	656	446	**1,102**			**1,392**			**704**
23:00-23:59	317	240	**557**			**804**			**380**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
8.0%	34%	20%
5.9%	65%	42%
5.0%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.5%	105%	99%
5.9%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.1%	60%	58%
8.2%	63%	57%
5.3%	84%	75%
3.7%	96%	85%
3.0%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

			D
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	205	304	318
01:00-01:59	291	367	366
02:00-02:59	331	361	343
03:00-03:59	529	397	267
04:00-04:59	1,151	516	310
05:00-05:59	2,737	947	590
06:00-06:59	5,077	1,497	822
07:00-07:59	7,185	2,429	1,421
08:00-08:59	5,306	3,442	2,229
09:00-09:59	4,451	4,339	3,370
10:00-10:59	4,437	4,947	4,239
11:00-11:59	4,757	5,149	4,678
12:00-12:59	4,959	5,229	4,890
13:00-13:59	5,278	5,186	4,763
14:00-14:59	5,777	4,990	4,732
15:00-15:59	6,622	4,800	4,635
16:00-16:59	8,219	4,972	4,791
17:00-17:59	7,409	4,672	4,222
18:00-18:59	4,774	3,990	3,571
19:00-19:59	3,283	3,143	2,784
20:00-20:59	2,734	2,680	2,048
21:00-21:59	2,334	2,657	1,593
22:00-22:59	1,363	1,721	871
23:00-23:59	689	994	469
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	371,262	44,284	36,951	452,497
Total Volume	449,500	69,728	58,323	577,550
				78%

I-41 IHSDM Analysis: High-Volume Hours Development

July 2019

2048 No-Build Volumes, Short-Term Alternative

DRAFT

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 15 & STH 47
Site #	440164
Trend ID	2 - COV

STH 47 SB Merge treated as thru lane in this analysis, high-volume hour calculation modified from 4-lanes to 5-lanes

Segment	5c (5 ln)
Target AADT	89,900

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	219	166	**166**			**246**			**257**
01:00-01:59	133	103	**236**			**297**			**296**
02:00-02:59	145	123	**268**			**292**			**278**
03:00-03:59	131	297	**428**			**321**			**216**
04:00-04:59	299	632	**931**			**417**			**251**
05:00-05:59	897	1,317	**2,214**			**766**			**477**
06:00-06:59	1,516	2,590	**4,106**			**1,210**			**665**
07:00-07:59	2,254	3,558	**5,812**			**1,965**			**1,149**
08:00-08:59	1,836	2,456	**4,292**			**2,784**			**1,803**
09:00-09:59	1,575	2,025	**3,600**			**3,509**			**2,725**
10:00-10:59	1,596	1,993	**3,589**			**4,001**			**3,429**
11:00-11:59	1,820	2,028	**3,848**			**4,165**			**3,783**
12:00-12:59	1,868	2,144	**4,011**			**4,229**			**3,955**
13:00-13:59	2,042	2,227	**4,269**			**4,194**			**3,852**
14:00-14:59	2,431	2,242	**4,673**			**4,036**			**3,827**
15:00-15:59	2,788	2,568	**5,356**			**3,882**			**3,748**
16:00-16:59	3,568	3,080	**6,648**			**4,022**			**3,875**
17:00-17:59	3,118	2,874	**5,992**			**3,779**			**3,415**
18:00-18:59	1,930	1,932	**3,862**			**3,227**			**2,888**
19:00-19:59	1,430	1,226	**2,656**			**2,542**			**2,252**
20:00-20:59	1,275	937	**2,212**			**2,168**			**1,657**
21:00-21:59	1,155	733	**1,888**			**2,149**			**1,288**
22:00-22:59	656	446	**1,102**			**1,392**			**704**
23:00-23:59	317	240	**557**			**804**			**380**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend*	
	% of Daily	Sat vs. M-F	Sun vs. M-F
00:00-00:59	0.2%	148%	155%
01:00-01:59	0.3%	126%	126%
02:00-02:59	0.4%	109%	104%
03:00-03:59	0.6%	75%	51%
04:00-04:59	1.3%	45%	27%
05:00-05:59	3.0%	35%	22%
06:00-06:59	5.6%	29%	16%
07:00-07:59	8.0%	34%	20%
08:00-08:59	5.9%	65%	42%
09:00-09:59	5.0%	97%	76%
10:00-10:59	4.9%	111%	96%
11:00-11:59	5.3%	108%	98%
12:00-12:59	5.5%	105%	99%
13:00-13:59	5.9%	98%	90%
14:00-14:59	6.4%	86%	82%
15:00-15:59	7.4%	72%	70%
16:00-16:59	9.1%	60%	58%
17:00-17:59	8.2%	63%	57%
18:00-18:59	5.3%	84%	75%
19:00-19:59	3.7%	96%	85%
20:00-20:59	3.0%	98%	75%
21:00-21:59	2.6%	114%	68%
22:00-22:59	1.5%	126%	64%
23:00-23:59	0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	205	304	318
01:00-01:59	291	367	366
02:00-02:59	331	361	343
03:00-03:59	529	397	267
04:00-04:59	1,151	516	310
05:00-05:59	2,737	947	590
06:00-06:59	5,077	1,497	822
07:00-07:59	7,185	2,429	1,421
08:00-08:59	5,306	3,442	2,229
09:00-09:59	4,451	4,339	3,370
10:00-10:59	4,437	4,947	4,239
11:00-11:59	4,757	5,149	4,678
12:00-12:59	4,959	5,229	4,890
13:00-13:59	5,278	5,186	4,763
14:00-14:59	5,777	4,990	4,732
15:00-15:59	6,622	4,800	4,635
16:00-16:59	8,219	4,972	4,791
17:00-17:59	7,409	4,672	4,222
18:00-18:59	4,774	3,990	3,571
19:00-19:59	3,283	3,143	2,784
20:00-20:59	2,734	2,680	2,048
21:00-21:59	2,334	2,657	1,593
22:00-22:59	1,363	1,721	871
23:00-23:59	689	994	469
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (5-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	254,367	15,563	0	269,930
Total Volume	449,500	69,728	58,323	577,550
				47%

I-41 IHSDM Analysis: High-Volume Hours Development

May 2019

2048 No-Build Conditions

DRAFT

Segment	6c
Target AADT	90,600

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	**178**			**263**			**275**
01:00-01:59	136	103	**238**			**300**			**299**
02:00-02:59	142	125	**267**			**291**			**277**
03:00-03:59	134	281	**414**			**311**			**209**
04:00-04:59	375	617	**992**			**445**			**268**
05:00-05:59	1,078	1,263	**2,341**			**809**			**504**
06:00-06:59	1,768	2,523	**4,291**			**1,265**			**695**
07:00-07:59	2,669	3,407	**6,076**			**2,054**			**1,201**
08:00-08:59	1,970	2,440	**4,409**			**2,860**			**1,852**
09:00-09:59	1,710	2,049	**3,759**			**3,664**			**2,845**
10:00-10:59	1,707	2,072	**3,779**			**4,213**			**3,610**
11:00-11:59	1,910	2,126	**4,036**			**4,368**			**3,968**
12:00-12:59	2,019	2,248	**4,267**			**4,498**			**4,207**
13:00-13:59	2,144	2,270	**4,414**			**4,336**			**3,983**
14:00-14:59	2,473	2,437	**4,910**			**4,241**			**4,022**
15:00-15:59	2,868	2,813	**5,680**			**4,118**			**3,976**
16:00-16:59	3,562	3,342	**6,903**			**4,176**			**4,024**
17:00-17:59	3,266	3,144	**6,410**			**4,043**			**3,653**
18:00-18:59	2,006	2,124	**4,129**			**3,451**			**3,088**
19:00-19:59	1,489	1,346	**2,835**			**2,713**			**2,403**
20:00-20:59	1,311	1,077	**2,388**			**2,341**			**1,789**
21:00-21:59	1,176	828	**2,004**			**2,281**			**1,368**
22:00-22:59	661	500	**1,161**			**1,466**			**742**
23:00-23:59	313	267	**580**			**837**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

			D
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	210	311	326
01:00-01:59	282	355	354
02:00-02:59	316	345	328
03:00-03:59	491	368	248
04:00-04:59	1,176	527	317
05:00-05:59	2,773	959	598
06:00-06:59	5,084	1,499	823
07:00-07:59	7,200	2,434	1,424
08:00-08:59	5,225	3,389	2,194
09:00-09:59	4,454	4,342	3,372
10:00-10:59	4,478	4,992	4,278
11:00-11:59	4,782	5,176	4,702
12:00-12:59	5,056	5,330	4,985
13:00-13:59	5,231	5,139	4,720
14:00-14:59	5,818	5,025	4,766
15:00-15:59	6,731	4,879	4,711
16:00-16:59	8,180	4,949	4,769
17:00-17:59	7,596	4,790	4,329
18:00-18:59	4,893	4,089	3,659
19:00-19:59	3,359	3,215	2,848
20:00-20:59	2,830	2,774	2,120
21:00-21:59	2,375	2,703	1,621
22:00-22:59	1,375	1,737	879
23:00-23:59	687	991	468
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	373,634	48,712	37,260	459,607
Total Volume	453,000	70,319	58,839	582,158
				79%

I-41 IHSDM Analysis: High-Volume Hours Development

July 2019

2048 No-Build Volumes, Short-Term Alternative

DRAFT

2016 Coverage Count (48-hours)	
Location	USH 41 BTWN STH 47 & CTH E
Site #	440163
Trend ID	3 - COV

CTH E SB Merge treated as thru lane in this analysis, high-volume hour calculation modified from 4-lanes to 5-lanes

Segment	6c (5 ln)
Target AADT	90,600

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	224	178	**178**			**263**			**275**
01:00-01:59	136	103	**238**			**300**			**299**
02:00-02:59	142	125	**267**			**291**			**277**
03:00-03:59	134	281	**414**			**311**			**209**
04:00-04:59	375	617	**992**			**445**			**268**
05:00-05:59	1,078	1,263	**2,341**			**809**			**504**
06:00-06:59	1,768	2,523	**4,291**			**1,265**			**695**
07:00-07:59	2,669	3,407	**6,076**			**2,054**			**1,201**
08:00-08:59	1,970	2,440	**4,409**			**2,860**			**1,852**
09:00-09:59	1,710	2,049	**3,759**			**3,664**			**2,845**
10:00-10:59	1,707	2,072	**3,779**			**4,213**			**3,610**
11:00-11:59	1,910	2,126	**4,036**			**4,368**			**3,968**
12:00-12:59	2,019	2,248	**4,267**			**4,498**			**4,207**
13:00-13:59	2,144	2,270	**4,414**			**4,336**			**3,983**
14:00-14:59	2,473	2,437	**4,910**			**4,241**			**4,022**
15:00-15:59	2,868	2,813	**5,680**			**4,118**			**3,976**
16:00-16:59	3,562	3,342	**6,903**			**4,176**			**4,024**
17:00-17:59	3,266	3,144	**6,410**			**4,043**			**3,653**
18:00-18:59	2,006	2,124	**4,129**			**3,451**			**3,088**
19:00-19:59	1,489	1,346	**2,835**			**2,713**			**2,403**
20:00-20:59	1,311	1,077	**2,388**			**2,341**			**1,789**
21:00-21:59	1,176	828	**2,004**			**2,281**			**1,368**
22:00-22:59	661	500	**1,161**			**1,466**			**742**
23:00-23:59	313	267	**580**			**837**			**395**

Raw coverage count data

Note: Saturday and Sunday volumes are estimates based on trends from annual ATR data.

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

**Trends from ATR 441218*

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	210	311	326
01:00-01:59	282	355	354
02:00-02:59	316	345	328
03:00-03:59	491	368	248
04:00-04:59	1,176	527	317
05:00-05:59	2,773	959	598
06:00-06:59	5,084	1,499	823
07:00-07:59	7,200	2,434	1,424
08:00-08:59	5,225	3,389	2,194
09:00-09:59	4,454	4,342	3,372
10:00-10:59	4,478	4,992	4,278
11:00-11:59	4,782	5,176	4,702
12:00-12:59	5,056	5,330	4,985
13:00-13:59	5,231	5,139	4,720
14:00-14:59	5,818	5,025	4,766
15:00-15:59	6,731	4,879	4,711
16:00-16:59	8,180	4,949	4,769
17:00-17:59	7,596	4,790	4,329
18:00-18:59	4,893	4,089	3,659
19:00-19:59	3,359	3,215	2,848
20:00-20:59	2,830	2,774	2,120
21:00-21:59	2,375	2,703	1,621
22:00-22:59	1,375	1,737	879
23:00-23:59	687	991	468
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Source: http://transportal.cee.wisc.edu/products/hourly-traffic-data/bysiteid/outagamie.html

Percent High-Volume Calculation (5-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	280,603	20,670	0	301,273
Total Volume	453,000	70,319	58,839	582,158
				52%

I-41 IHSDM Analysis: High-Volume Hours Development

2048 No-Build Conditions

DRAFT

May 2019

Segment	8c
Target AADT	77,250

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	**338**	253	259	**512**	266	281	**547**
01:00-01:59	133	121	**254**	161	174	**335**	173	181	**354**
02:00-02:59	128	140	**268**	146	162	**308**	149	150	**299**
03:00-03:59	147	239	**387**	119	176	**295**	93	119	**212**
04:00-04:59	406	475	**881**	192	219	**411**	119	131	**250**
05:00-05:59	1,120	1,081	**2,201**	373	379	**752**	244	230	**474**
06:00-06:59	1,883	2,125	**4,008**	536	613	**1,149**	313	347	**660**
07:00-07:59	2,547	2,891	**5,439**	792	947	**1,739**	484	527	**1,011**
08:00-08:59	1,796	1,974	**3,771**	1,102	1,269	**2,371**	768	778	**1,546**
09:00-09:59	1,590	1,646	**3,236**	1,458	1,569	**3,027**	1,195	1,166	**2,361**
10:00-10:59	1,624	1,650	**3,274**	1,758	1,784	**3,542**	1,427	1,548	**2,975**
11:00-11:59	1,762	1,749	**3,511**	1,901	1,856	**3,757**	1,595	1,772	**3,367**
12:00-12:59	1,852	1,833	**3,684**	1,938	1,854	**3,792**	1,690	1,822	**3,512**
13:00-13:59	1,950	1,882	**3,832**	1,871	1,790	**3,661**	1,631	1,746	**3,377**
14:00-14:59	2,212	2,070	**4,281**	1,863	1,703	**3,566**	1,637	1,775	**3,412**
15:00-15:59	2,618	2,408	**5,026**	1,861	1,693	**3,554**	1,636	1,838	**3,474**
16:00-16:59	3,120	2,856	**5,976**	1,844	1,604	**3,448**	1,632	1,748	**3,380**
17:00-17:59	2,702	2,555	**5,256**	1,733	1,494	**3,227**	1,464	1,542	**3,006**
18:00-18:59	1,631	1,506	**3,137**	1,398	1,293	**2,691**	1,214	1,275	**2,489**
19:00-19:59	1,147	954	**2,100**	1,117	979	**2,096**	946	980	**1,926**
20:00-20:59	942	785	**1,727**	957	834	**1,791**	714	724	**1,438**
21:00-21:59	731	629	**1,360**	823	820	**1,643**	522	506	**1,028**
22:00-22:59	488	483	**971**	611	689	**1,300**	325	334	**659**
23:00-23:59	294	310	**604**	393	488	**881**	189	261	**450**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

	A	*B*	*C*
	Weekday	Weekday vs. Weekend	
	% of Daily	Sat vs. M-F	Sun vs. M-F
	0.5%	151%	162%
	0.4%	132%	139%
	0.4%	115%	112%
	0.6%	76%	55%
	1.3%	47%	28%
	3.4%	34%	22%
	6.1%	29%	16%
	8.3%	32%	19%
	5.8%	63%	41%
	4.9%	94%	73%
	5.0%	108%	91%
	5.4%	107%	96%
	5.6%	103%	95%
	5.8%	96%	88%
	6.5%	83%	80%
	7.7%	71%	69%
	9.1%	58%	57%
	8.0%	61%	57%
	4.8%	86%	79%
	3.2%	100%	92%
	2.6%	104%	83%
	2.1%	121%	76%
	1.5%	134%	68%
	0.9%	146%	75%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	399	604	645
01:00-01:59	300	395	417
02:00-02:59	316	363	353
03:00-03:59	456	348	250
04:00-04:59	1,039	485	295
05:00-05:59	2,595	887	559
06:00-06:59	4,725	1,355	778
07:00-07:59	6,412	2,050	1,192
08:00-08:59	4,446	2,795	1,823
09:00-09:59	3,815	3,569	2,784
10:00-10:59	3,860	4,176	3,508
11:00-11:59	4,139	4,430	3,970
12:00-12:59	4,344	4,471	4,141
13:00-13:59	4,518	4,316	3,981
14:00-14:59	5,048	4,204	4,023
15:00-15:59	5,925	4,190	4,096
16:00-16:59	7,046	4,065	3,985
17:00-17:59	6,197	3,805	3,544
18:00-18:59	3,699	3,173	2,935
19:00-19:59	2,476	2,471	2,271
20:00-20:59	2,036	2,112	1,695
21:00-21:59	1,603	1,937	1,212
22:00-22:59	1,145	1,533	777
23:00-23:59	712	1,039	531
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (4-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	264,003	29,852	12,259	306,114
Total Volume	386,250	58,771	49,762	494,783
				62%

I-41 IHSDM Analysis: High-Volume Hours Development

2048 No-Build Volumes, Short-Term Alternative

DRAFT

July 2019

2018 Annual ATR Data	
Location	USH 41 WEST OF CTH N LITTLE CHUTE
Site #	440103
Trend ID	5 - ATR

CTH N SB Merge treated as thru lane in this analysis, high-volume hour calculation modified from 4-lanes to 5-lanes

Segment	8c (5 ln)
Target AADT	77,250

Existing Traffic Volumes

Hour	Mon-Fri			Saturdays			Sundays		
	NB	SB	2-way	NB	SB	2-way	NB	SB	2-way
00:00-00:59	161	177	**338**	253	259	**512**	266	281	**547**
01:00-01:59	133	121	**254**	161	174	**335**	173	181	**354**
02:00-02:59	128	140	**268**	146	162	**308**	149	150	**299**
03:00-03:59	147	239	**387**	119	176	**295**	93	119	**212**
04:00-04:59	406	475	**881**	192	219	**411**	119	131	**250**
05:00-05:59	1,120	1,081	**2,201**	373	379	**752**	244	230	**474**
06:00-06:59	1,883	2,125	**4,008**	536	613	**1,149**	313	347	**660**
07:00-07:59	2,547	2,891	**5,439**	792	947	**1,739**	484	527	**1,011**
08:00-08:59	1,796	1,974	**3,771**	1,102	1,269	**2,371**	768	778	**1,546**
09:00-09:59	1,590	1,646	**3,236**	1,458	1,569	**3,027**	1,195	1,166	**2,361**
10:00-10:59	1,624	1,650	**3,274**	1,758	1,784	**3,542**	1,427	1,548	**2,975**
11:00-11:59	1,762	1,749	**3,511**	1,901	1,856	**3,757**	1,595	1,772	**3,367**
12:00-12:59	1,852	1,833	**3,684**	1,938	1,854	**3,792**	1,690	1,822	**3,512**
13:00-13:59	1,950	1,882	**3,832**	1,871	1,790	**3,661**	1,631	1,746	**3,377**
14:00-14:59	2,212	2,070	**4,281**	1,863	1,703	**3,566**	1,637	1,775	**3,412**
15:00-15:59	2,618	2,408	**5,026**	1,861	1,693	**3,554**	1,636	1,838	**3,474**
16:00-16:59	3,120	2,856	**5,976**	1,844	1,604	**3,448**	1,632	1,748	**3,380**
17:00-17:59	2,702	2,555	**5,256**	1,733	1,494	**3,227**	1,464	1,542	**3,006**
18:00-18:59	1,631	1,506	**3,137**	1,398	1,293	**2,691**	1,214	1,275	**2,489**
19:00-19:59	1,147	954	**2,100**	1,117	979	**2,096**	946	980	**1,926**
20:00-20:59	942	785	**1,727**	957	834	**1,791**	714	724	**1,438**
21:00-21:59	731	629	**1,360**	823	820	**1,643**	522	506	**1,028**
22:00-22:59	488	483	**971**	611	689	**1,300**	325	334	**659**
23:00-23:59	294	310	**604**	393	488	**881**	189	261	**450**

Note: 2018 ATR data provided by WisDOT Traffic Forecasting Section

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	399	604	645
01:00-01:59	300	395	417
02:00-02:59	316	363	353
03:00-03:59	456	348	250
04:00-04:59	1,039	485	295
05:00-05:59	2,595	887	559
06:00-06:59	4,725	1,355	778
07:00-07:59	6,412	2,050	1,192
08:00-08:59	4,446	2,795	1,823
09:00-09:59	3,815	3,569	2,784
10:00-10:59	3,860	4,176	3,508
11:00-11:59	4,139	4,430	3,970
12:00-12:59	4,344	4,471	4,141
13:00-13:59	4,518	4,316	3,981
14:00-14:59	5,048	4,204	4,023
15:00-15:59	5,925	4,190	4,096
16:00-16:59	7,046	4,065	3,985
17:00-17:59	6,197	3,805	3,544
18:00-18:59	3,699	3,173	2,935
19:00-19:59	2,476	2,471	2,271
20:00-20:59	2,036	2,112	1,695
21:00-21:59	1,603	1,937	1,212
22:00-22:59	1,145	1,533	777
23:00-23:59	712	1,039	531
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (5-Lanes)

				Totals
Volume in Hours with >1000 vph/ln	153,143	0	0	153,143
Total Volume	386,250	58,771	49,762	494,783
				31%

ATTACHMENT I
LONG-TERM BUILD ALTERNATIVE GEOMETRIC INPUTS

I-41 IHSDM Analysis: Interchange and Ramp Connection Summary

LONG-TERM BUILD ALTERNATIVE

August 1, 2019 (Draft)

= increased number of ramp lanes vs. existing conditions

Interchange	Interchange Station	Ramp Type	Existing # Lanes	Long-Term Alt # Lanes	Gore Station	Gore to Taper Length (ft)	Side of Road	Part of weave?	Notes
CTH BB	429+50	NB Exit	1	1	419+00	990	Right	No	
		NB Entrance	1	1	445+35	720	Right	No	
		SB Exit	1	1	441+50	635	Left	No	
		SB Entrance	1	1	419+10	1,225	Left	No	
STH 125	495+20	NB Exit	1	1	483+95	660	Right	No	
		NB Entrance	1	2	510+55		Right	Yes	
		SB Exit	2	2	505+55		Left	Yes	
		SB Entrance	1	2	477+75	1,120	Left	No	Right lane gore-to-taper length = 760'
STH 96	536+25	NB Exit	2	2	523+00		Right	Yes	
		NB Entrance	1	2	548+10	1,120	Right	No	Right lane gore-to-taper length = 760'
		SB Exit	1	1	546+35	360	Left	No	
		SB Entrance	1	2	521+85		Left	Yes	
STH 15	590+75	NB Exit	1	1	574+62	360	Right	No	
		NB Entrance	1	2	605+48	700	Right	No	Gore-to-taper length is for right onramp lane
		SB Exit	1	1	603+60	1,540	Left	No	
		SB Entrance	1	2	593+12	1,300	Left	No	Right lane gore-to-taper length = 760'
STH 47	747+80	NB Exit	1	1	735+80	1,050	Right	No	
		NB Entrance	1	1	759+40		Right	Yes	
		SB Exit	1	1	762+25		Left	Yes	
		SB Entrance	1	1	736+00	1,570	Left	No	
CTH E	853+60	NB Exit	1	1	841+84	250	Right	Yes	
		NB Entrance	1	2	865+46	960	Right	Yes	Gore-to-taper length is for right onramp lane
		SB Entrance	1	2	806+00		Left	Yes	Part of proposed Westbound C-D Road
STH 441	903+25	NB Exit	1	1	890+34		Right	Yes	
		NB Entrance	1	1	916+50	2,340	Right	No	Gore-to-taper length is zero for IHSDM model*
		SB Exit (to C-D)	1	2	946+59	1,600	Left	No	Part of proposed Westbound C-D Road
CTH N	1016+04	NB Exit	1	1	1004+67	285	Right	No	
		NB Entrance	1	1	1026+52	1,570	Right	No	
		SB Exit	1	1	1028+25	255	Left	No	
		SB Entrance	1	1	1006+57	1,565	Left	No	
STH 55	1123+64	NB Exit	1	1	1111+37	2,000	Right	No	Gore-to-taper length is zero for IHSDM model*
		NB Entrance	1	1	1135+16	1,500	Right	No	
		SB Exit	1	1	1135+14	230	Left	No	
		SB Entrance	1	1	1112+57	1,750	Left	No	Gore-to-taper length is zero for IHSDM model*
CTH J	1187+44	NB Exit	1	1	1174+24	210	Right	No	
		NB Entrance	1	1	1195+58	1,630	Right	No	Gore-to-taper length is zero for IHSDM model*
		SB Exit	1	1	1198+99	215	Left	No	
		SB Entrance	1	1	1177+58	700	Left	No	
Weigh Station	1374+24	NB Exit	1	1	1356+91	1,475	Right	No	
		NB Entrance	1	1	1380+34		Right	Yes	
CTH U	1410+94	NB Exit	1	1	1398+25	210	Right	Yes	
		NB Entrance	1	1	1420+04	1,640	Right	No	Gore-to-taper length is zero for IHSDM model*
		SB Exit	1	1	1425+74	215	Left	No	
		SB Entrance	1	1	1401+44	1,640	Left	No	Gore-to-taper length is zero for IHSDM model*
CTH S	1567+24	NB Exit	1	1	1554+56	215	Right	No	
		NB Entrance	1	1	1578+38	1,655	Right	No	Gore-to-taper length is zero for IHSDM model*
		SB Exit	1	1	1581+16	740	Left	No	
		SB Entrance	1	1	1555+90	1,670	Left	No	Gore-to-taper length is zero for IHSDM model*

**Gore-to-taper lengths over 0.30 miles (1,584') must be coded as thru lanes per the HSM definitions. See technical memo for more discussion.*

I-41 IHSDM Analysis: General Purpose Lane Summary

August 6, 2019 (Draft)

LONG-TERM BUILD ALTERNATIVE

Coded with gore-taper set to 0' to account for auxiliary lane

Increasing Stations: I-41 NB (Right)

Stationing			General Purpose Lane Widths (feet)						Aux Lane					Parallel Merge/Diverge				
			Lane 1 (Median)		Lane 3 (Center)		Lane 4 (Right)		Aux lane width (ft)		Type of Weave	Aux Lane	Count Aux	Location	Gore to Taper	Lane Width	Count as thru?	Ramp Measurement Notes
Start	*End*	*Location*	*Start*	*End*	*Start*	*End*	*Start*	*End*	*Start*	*End*	(A, B, or C)	Length (ft)	lane as thru?		Length (ft)	End		
392+00		USH 10 to CTH BB	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH BB Exit												409+10 to 419+00	990	15	Taper	
		CTH BB	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH BB Entrance												445+35 to 452+55	720	15	Taper	
		CTH BB to STH 125	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 125 Exit												477+35 to 483+95	660	15	Taper	
		STH 125	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 125 Entrance												510+55	0	12		
		STH 125 to STH 96	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	B	1,245	No					
		STH 96 Exit												523+00	0	12		
		STH 96	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 96 Entrance												548+10 to 559+30	1,120	12	Taper	
		STH 96 to STH 15	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 15 Exit												571+02 to 574+62	360	12	Taper	
		STH 15	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 15 Entrance												605+48 to 612+48	700	12	Taper	Left lane coded as thru lane
		STH 15 to STH 47	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 47 Exit												725+30 to 735+80	1,050	15	Taper	
		STH 47	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 47 Entrance												759+40	0	12		
		STH 47 to CTH E	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	B	9,800	Yes					
		CTH E Exit												839+34 to 841+84	250	15		
		CTH E	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH E Entrance												865+46 to 875+06	960	12	Taper	
		CTH E to STH 441	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	A	2,488	No					
		STH 441 Exit												890+34	0	15		
		STH 441	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 441 Entrance												916+50	2,340	15	Yes	
		STH 441 to CTH N	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH N Exit												1001+82 to 1004+67	285	15	Taper	
		CTH N	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH N Entrance												1026+52 to 1042+22	1,570	15	Taper	
		CTH N to STH 55	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 55 Exit												1091+37 to 1111+37	2,000	15	Yes	
		STH 55	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 55 Entrance												1135+16 to 1150+16	1,500	15	Taper	
		STH 55 to CTH J	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH J Exit												1172+14 to 1174+24	210	15	Taper	
		CTH J	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH J Entrance												1195+58 to 1211+88	1,630	15	Yes	
		CTH J to CTH U	12.0	12.0	12.0	12.0	12.0	12.0										
		Weigh Station Exit												1342+16 to 1356+91	1,475	15	Taper	
		Weight Station	12.0	12.0	12.0	12.0	12.0	12.0										
		Weigh Station Entrance												1380+34	0			
		Weight Station to CTH U	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	B	3,640	No					
		CTH U Exit												1396+15 to 1398+25	210	15	Taper	
		CTH U	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH U Entrance												1420+04 to 1436+44	1,640	15	Yes	
		CTH U to CTH S	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH S Exit												1552+41 to 1554+56	215	15	Taper	
		CTH S	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH S Entrance												1578+38 to 1594+93	1,655	15	Yes	
1736+61		CTH S to CTH F	12.0	12.0	12.0	12.0	12.0	12.0										

Decreasing Stations: I-41 SB (Left)

Stationing																
			Lane 1 (Median)		Lane 3 (Center)		Lane 4 (Right)		Aux Lane					Parallel Merge/Diverge				
Start	*End*	*Location*	*Start*	*End*	*Start*	*End*	*Start*	*End*	Aux lane width (ft) *Start*	Aux lane width (ft) *End*	Type of Weave (A, B, or C)	Aux Lane Length (ft)	Count Aux lane as thru?	Location	Gore to Taper Length (ft)	Lane Width End	Count as thru?	Ramp Measurement Notes
392+00		USH 10 to CTH BB	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH BB Entrance												406+85 to 419+10	1,225	15	Taper	
		CTH BB	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH BB Exit												441+50 to 447+85	635	15	Taper	
		CTH BB to STH 125	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 125 Entrance												466+55 to 477+75	1,120	12	Taper	
		STH 125	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 125 Exit												505+55	0	12		
		STH 125 to STH 96	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	B	1,630	No					
		STH 96 Entrance												521+85	0	12	Taper	
		STH 96	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 96 Exit												546+35 to 549+95	360	15	Taper	
		STH 96 to STH 15	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 15 Entrance												580+12 to 593+12	1,300	12	Taper	
		STH 15	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 15 Exit												603+60 to 619+00	1,540	15	Taper	
		STH 15 to STH 47	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 47 Entrance												720+30 to 736+00	1,570	15	Taper	
		STH 47	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 47 Exit												762+25	0	12		
		STH 47 to CTH E	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	C	6,280	Yes (continues thru exit)					
		CTH E & STH 441 Entrance (CD-Road)												806+00	0	12		
		CTH E	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH E to STH 441	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 441	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 441 & CTH E Exit (CD-Road)												946+59 to 962+59	1,600	12	Taper	
		STH 441 to CTH N	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH N Entrance												990+92 to 1006+57	1,565	15	Taper	
		CTH N	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH N Exit												1028+25 to 1030+80	255	15	Taper	
		CTH N to STH 55	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 55 Entrance												1095+07 to 1112+57	1,750	15	**Yes**	
		STH 55	12.0	12.0	12.0	12.0	12.0	12.0										
		STH 55 Exit												1135+14 to 1137+44	230	15	Taper	
		STH 55 to CTH J	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH J Entrance												1170+58 to 1177+58	700	15	Taper	
		CTH J	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH J Exit												1198+99 to 1201+14	215	15	Taper	
		CTH J to CTH U	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH U Entrance												1385+04 to 1401+44	1,640	15	**Yes**	
		CTH U	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH U Exit												1425+74 to 1427+89	215	15	Taper	
		CTH U to CTH S	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH S Entrance												1539+20 to 1555+90	1,670	15	**Yes**	
		CTH S	12.0	12.0	12.0	12.0	12.0	12.0										
		CTH S Exit												1581+16 to 1588+56	740	15	Taper	
1736+61		CTH S to CTH F	12.0	12.0	12.0	12.0	12.0	12.0										

I-41 IHSDM Analysis: Inside Shoulder Width Summary **LONG-TERM BUILD ALTERNATIVE**

July 29, 2019 (Draft)

Values Equal to Existing

Decreasing Stations: I-41 SB (Left)

Stationing			Shoulder Characteristics							Coding Priority
						Shoulder Width (ft)		Material	Rumble Strips?	
Start	End	Side of Road	Shoulder Side	Start Slope	End Slope	Start	End			
39200.00	40276.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
40276.00	42532.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
42532.00	42673.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
42673.00	42706.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
42706.00	42815.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
42815.00	43063.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
43063.00	43548.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
43548.00	47842.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
47842.00	48264.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
48264.00	48418.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
48418.00	48445.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
48445.00	48479.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
48479.00	49390.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
49390.00	49617.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
49617.00	50130.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
50130.00	53154.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
53154.00	53504.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
53504.00	53755.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
53755.00	53793.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
53793.00	53820.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
53820.00	54679.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
54679.00	54709.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
54709.00	55409.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
55409.00	55707.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
55707.00	56259.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
56259.00	57048.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
57048.00	57155.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
57155.00	57330.00	Left	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
57330.00	57430.00	Left	Inside	0.00	0.00	10.0	14.0	Paved	Yes	9.0
57430.00	58989.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
58989.00	59141.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
59141.00	69317.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
69317.00	69466.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
69466.00	70705.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
70705.00	70819.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
70819.00	74734.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
74734.00	74830.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
74830.00	85289.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
85289.00	85443.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0

I-41 IHSDM Analysis: Inside Shoulder Width Summary **LONG-TERM BUILD ALTERNATIVE**

July 29, 2019 (Draft)

Values Equal to Existing

Decreasing Stations: I-41 SB (Left)

Stationing			Shoulder Characteristics							Coding Priority
						Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Start*	*End*	*Material*	*Rumble Strips?*	
85443.00	90248.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
90248.00	90384.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
90384.00	101554.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
101554.00	101664.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
101664.00	112301.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
112301.00	112419.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
112419.00	113502.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
113502.00	113611.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
113611.00	118711.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
118711.00	118774.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
118774.00	125005.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
125005.00	125170.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
125170.00	132144.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
132144.00	132317.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
132317.00	141012.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
141012.00	141224.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
141224.00	143591.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
143591.00	143723.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
143723.00	156604.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
156604.00	156699.00	Left	Inside	0.00	0.00	14.0	13.0	Paved	Yes	8.0
156699.00	156788.00	Left	Inside	0.00	0.00	13.0	13.0	Paved	Yes	8.0
156788.00	156877.00	Left	Inside	0.00	0.00	13.0	14.0	Paved	Yes	8.0
156877.00	161212.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
161212.00	161386.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
161386.00	173661.00	Left	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0

IH-41 IHSDM Analysis: Inside Shoulder Width Summary **LONG-TERM BUILD ALTERNATIVE**

July 29, 2019 (Draft)

Values Equal to Existing

Increasing Stations: I-41 NB (Right)

Stationing			Shoulder Characteristics							Coding Priority
						Shoulder Width (ft)		Material	Rumble Strips?	
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Start*	*End*			
39200.00	42270.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
42270.00	42813.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
42813.00	43085.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
43085.00	43345.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
43345.00	47842.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
47842.00	48252.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
48252.00	48418.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
48418.00	48445.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
48445.00	48479.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
48479.00	49372.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
49372.00	49641.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
49641.00	49984.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
49984.00	53043.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
53043.00	53504.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
53504.00	53820.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
53820.00	54682.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
54682.00	54709.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
54709.00	55413.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
55413.00	55683.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	No	8.0
55683.00	56109.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
56109.00	57048.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
57048.00	57155.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
57155.00	57172.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
57172.00	57330.00	Right	Inside	0.00	0.00	10.0	10.0	Paved	Yes	8.0
57330.00	57430.00	Right	Inside	0.00	0.00	10.0	14.0	Paved	Yes	9.0
57430.00	58989.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
58989.00	59141.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
59141.00	69319.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
69319.00	69471.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
69471.00	70708.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
70708.00	70824.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
70824.00	74734.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
74734.00	74830.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
74830.00	85289.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
85289.00	85443.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
85443.00	90248.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
90248.00	90384.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
90384.00	101549.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
101549.00	101663.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0

IH-41 IHSDM Analysis: Inside Shoulder Width Summary **LONG-TERM BUILD ALTERNATIVE**

July 29, 2019 (Draft)

Values Equal to Existing

Increasing Stations: I-41 NB (Right)

Stationing			Shoulder Characteristics							Coding Priority
						Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Start*	*End*	*Material*	*Rumble Strips?*	
101663.00	112304.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
112304.00	112422.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
112422.00	113499.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
113499.00	113610.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
113610.00	118708.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
118708.00	118771.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
118771.00	125013.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
125013.00	125186.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
125186.00	132152.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
132152.00	132325.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
132325.00	141006.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
141006.00	141215.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
141215.00	143591.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
143591.00	143723.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
143723.00	156604.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
156604.00	156704.00	Right	Inside	0.00	0.00	14.0	13.0	Paved	Yes	8.0
156704.00	156796.00	Right	Inside	0.00	0.00	13.0	13.0	Paved	Yes	8.0
156796.00	156877.00	Right	Inside	0.00	0.00	13.0	14.0	Paved	Yes	8.0
156877.00	161212.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0
161212.00	161386.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	No	8.0
161386.00	173661.00	Right	Inside	0.00	0.00	14.0	14.0	Paved	Yes	8.0

I-41 IHSDM Analysis: Median Width Summary

LONG-TERM BUILD ALTERNATIVE

July 29, 2019 (Draft)

Note: Median width does not have influence on crash calculations where barrier is present

Both Directions

Stationing			Median Width	
Start	*End*	*Median Type*	*Inside shoulder edge to inside shoulder edge* [1]	
			Start Width (ft)	End Width (ft)
392+00	562+20	Non-Traversable Median	6.0	6.0
562+20	568+97	Non-Traversable Median	6.0	29.0
568+97	570+70	Non-Traversable Median	29.0	29.0
570+70	574+30	Non-Traversable Median	29.0	8.5
574+30	891+50	Non-Traversable Median	8.5	8.5
891+50	900+68	Non-Traversable Median	8.5	39.0
900+68	909+25	Non-Traversable Median	39.0	8.5
909+25	1566+04	Non-Traversable Median	8.5	8.5
1566+04	1566+94	Non-Traversable Median	8.5	10.2
1566+94	1567+94	Non-Traversable Median	10.2	10.2
1567+94	1568+75	Non-Traversable Median	10.2	8.5
1568+75	1736+61	Non-Traversable Median	8.5	8.5

[1] - IHSDM includes shoulder width automatically. **e.g.** 6 ft = face-to-face for barrier location

Decreasing Stations: I-41 SB (Left)

Stationing			Median Barrier
Start	*End*	*Side of Road*	Offset (ft)[1]
39200.00	57048.00	Left	11.0
57048.00	57131.00	Left	11.0
57274.00	57430.00	Left	15.0
57430.00	156699.00	Left	14.0
156699.00	156877.00	Left	13.0
156877.00	173661.00	Left	14.0

Increasing Stations: I-41 NB (Right)

Stationing			Median Barrier
Start	*End*	*Side of Road*	Offset (ft)[1]
39200.00	57048.00	Right	11.0
57048.00	57220.00	Right	11.0
57430.00	156704.00	Right	14.0
156704.00	156796.00	Right	13.0
156796.00	173661.00	Right	14.0

[1] - Specify the value as the distance from the edge of the leftmost thru lane to the face of the barrier. (Value from edge of leftmost thru lane if centered)

I-41 IHSDM Analysis: Outside Shoulder Width Summary

LONG-TERM BUILD ALTERNATIVE

July 29, 2019 (Draft)

Values Equal to Existing

Decreasing Stations: I-41 SB (Left)

Stationing			Shoulder Characteristics							Coding Priority
						Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Start*	*End*	*Material*	*Rumble Strips?*	
39200.00	40530.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
40530.00	40580.00	Left	Outside	0.0	0.0	12.0	10.0	Paved	Yes	70
40580.00	41137.00	Left	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
41137.00	41773.00	Left	Outside	0.0	0.0	8.0	8.0	Paved	Yes	70
41773.00	42130.00	Left	Outside	0.0	0.0	8.0	8.0	Paved	No	70
42130.00	42836.00	Left	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
42836.00	43070.00	Left	Outside	0.0	0.0	10.0	10.0	Paved	No	70
43070.00	43838.00	Left	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
43838.00	44654.00	Left	Outside	0.0	0.0	8.0	8.0	Paved	No	70
44654.00	44830.00	Left	Outside	0.0	0.0	8.0	10.0	Paved	No	70
44830.00	47143.00	Left	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
47143.00	47228.00	Left	Outside	0.0	0.0	10.0	8.0	Paved	Yes	70
47228.00	47723.00	Left	Outside	0.0	0.0	8.0	8.0	Paved	Yes	70
47723.00	48490.00	Left	Outside	0.0	0.0	8.0	8.0	Paved	No	70
48490.00	49400.00	Left	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
49400.00	49642.00	Left	Outside	0.0	0.0	10.0	10.0	Paved	No	70
49642.00	50372.00	Left	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
50372.00	50518.00	Left	Outside	0.0	0.0	5.0	5.0	Paved	No	70
50518.00	50556.00	Left	Outside	0.0	0.0	5.0	8.0	Paved	No	70
50556.00	50817.00	Left	Outside	0.0	0.0	8.0	8.0	Paved	No	70
50817.00	51043.00	Left	Outside	0.0	0.0	8.0	12.0	Paved	No	70
51043.00	52017.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
52017.00	52253.00	Left	Outside	0.0	0.0	12.0	8.0	Paved	Yes	70
52253.00	52659.00	Left	Outside	0.0	0.0	8.0	8.0	Paved	Yes	70
52659.00	52907.00	Left	Outside	0.0	0.0	8.0	8.0	Paved	No	70
52907.00	53508.00	Left	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
53508.00	53748.00	Left	Outside	0.0	0.0	10.0	10.0	Paved	No	70
53748.00	54414.00	Left	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
54414.00	55130.00	Left	Outside	0.0	0.0	8.0	8.0	Paved	No	70
55130.00	55323.00	Left	Outside	0.0	0.0	8.0	12.0	Paved	No	70
55323.00	55491.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
55491.00	55756.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
55756.00	56061.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
56061.00	56212.00	Left	Outside	0.0	0.0	12.0	11.0	Paved	Yes	70
56212.00	56527.00	Left	Outside	0.0	0.0	11.0	14.0	Paved	Yes	70
56527.00	56687.00	Left	Outside	0.0	0.0	14.0	12.0	Paved	Yes	70
56687.00	57430.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
57430.00	57975.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
57975.00	58335.00	Left	Outside	0.0	0.0	12.0	8.0	Paved	Yes	70
58335.00	58994.00	Left	Outside	0.0	0.0	8.0	8.0	Paved	Yes	70
58994.00	59146.00	Left	Outside	0.0	0.0	8.0	8.0	Paved	Yes	70

I-41 IHSDM Analysis: Outside Shoulder Width Summary

LONG-TERM BUILD ALTERNATIVE

July 29, 2019 (Draft)

Values Equal to Existing

Decreasing Stations: I-41 SB (Left)

Stationing			Shoulder Characteristics							Coding Priority
						Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Start*	*End*	*Material*	*Rumble Strips?*	
59146.00	59215.00	Left	Outside	0.0	0.0	8.0	8.0	Paved	Yes	70
59215.00	59433.00	Left	Outside	0.0	0.0	8.0	12.0	Paved	No	70
59433.00	60404.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
60404.00	60554.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
60554.00	69322.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
69322.00	69472.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
69472.00	70711.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
70711.00	70824.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
70824.00	71980.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
71980.00	73458.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
73458.00	75986.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
75986.00	76483.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
76483.00	80304.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
80304.00	81638.00	Left	Outside	0.0	0.0	12.0	14.0	Paved	No	70
81638.00	88004.00	Left	Outside	0.0	0.0	14.0	14.0	Paved	Yes	70
88004.00	93953.00	Left	Outside	0.0	0.0	14.0	14.0	Paved	Yes	70
93953.00	94804.00	Left	Outside	0.0	0.0	14.0	12.0	Paved	No	70
94804.00	99091.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
99091.00	100502.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
100502.00	102531.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
102531.00	103085.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
103085.00	109019.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
109019.00	111587.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
111587.00	112278.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
112278.00	112399.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
112399.00	113242.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
113242.00	113743.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
113743.00	117699.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
117699.00	117953.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
117953.00	119590.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
119590.00	120111.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
120111.00	124990.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
124990.00	125163.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
125163.00	132114.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
132114.00	132287.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
132287.00	138501.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
138501.00	140317.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
140317.00	141066.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
141066.00	141275.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
141275.00	142263.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
142263.00	142785.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70

I-41 IHSDM Analysis: Outside Shoulder Width Summary **LONG-TERM BUILD ALTERNATIVE**

July 29, 2019 (Draft)

Values Equal to Existing

Decreasing Stations: I-41 SB (Left)

Stationing			Shoulder Characteristics							Coding Priority
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	Shoulder Width (ft)		*Material*	*Rumble Strips?*	
						Start	*End*			
142785.00	143592.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
143592.00	143724.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
143724.00	155500.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
155500.00	155793.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
155793.00	157804.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
157804.00	158179.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
158179.00	161213.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
161213.00	161386.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	No	70
161386.00	173661.00	Left	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70

I-41 IHSDM Analysis: Outside Shoulder Width Summary **LONG-TERM BUILD ALTERNATIVE**

July 29, 2019 (Draft)

Values Equal to Existing

Increasing Stations: I-41 NB (Right)

Stationing			Shoulder Characteristics							Coding Priority
						Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Start*	*End*	*Material*	*Rumble Strips?*	
39200.00	40785.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
40785.00	40885.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	No	70
40885.00	42035.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	No	70
42035.00	42500.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
42500.00	42800.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
42800.00	43050.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	No	70
43050.00	43830.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
43830.00	44595.00	Right	Outside	0.0	0.0	8.0	8.0	Paved	No	70
44595.00	44610.00	Right	Outside	0.0	0.0	8.0	10.0	Paved	No	70
44610.00	44670.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	No	70
44670.00	45150.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
45150.00	45250.00	Right	Outside	0.0	0.0	10.0	12.0	Paved	Yes	70
45250.00	47600.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
47600.00	47715.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
47715.00	47950.00	Right	Outside	0.0	0.0	10.0	8.0	Paved	No	70
47950.00	48580.00	Right	Outside	0.0	0.0	8.0	8.0	Paved	No	70
48580.00	49400.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
49400.00	49660.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	No	70
49660.00	50367.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
50367.00	50530.00	Right	Outside	0.0	0.0	8.0	8.0	Paved	No	70
50530.00	51010.00	Right	Outside	0.0	0.0	8.0	8.0	Paved	Yes	70
51010.00	51060.00	Right	Outside	0.0	0.0	8.0	12.0	Paved	Yes	70
51060.00	51860.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
51860.00	52640.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
52640.00	53508.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
53508.00	53747.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	No	70
53747.00	54545.00	Right	Outside	0.0	0.0	10.0	10.0	Paved	Yes	70
54545.00	54942.00	Right	Outside	0.0	0.0	8.0	8.0	Paved	No	70
54942.00	55366.00	Right	Outside	0.0	0.0	8.0	8.0	Paved	Yes	70
55366.00	55515.00	Right	Outside	0.0	0.0	8.0	12.0	Paved	No	70
55515.00	55630.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
55630.00	57430.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
57430.00	57786.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
57786.00	58992.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
58992.00	59145.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
59145.00	60303.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
60303.00	61548.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
61548.00	69322.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
69322.00	69473.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
69473.00	70711.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
70711.00	70828.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70

I-41 IHSDM Analysis: Outside Shoulder Width Summary

LONG-TERM BUILD ALTERNATIVE

July 29, 2019 (Draft)

Values Equal to Existing

Increasing Stations: I-41 NB (Right)

Stationing			Shoulder Characteristics							Coding Priority
						Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Start*	*End*	*Material*	*Rumble Strips?*	
70828.00	72545.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
72545.00	73713.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
73713.00	75654.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
75654.00	76177.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
76177.00	83923.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
83923.00	85031.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
85031.00	86304.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
86304.00	87512.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
87512.00	88797.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
88797.00	89501.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
89501.00	91480.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
91480.00	93130.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
93130.00	100187.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
100187.00	100731.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
100731.00	102434.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
102434.00	104222.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
104222.00	109134.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
109134.00	111436.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
111436.00	112326.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
112326.00	112442.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
112442.00	113225.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
113225.00	115004.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
115004.00	117150.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
117150.00	117738.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
117738.00	119368.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
119368.00	119633.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
119633.00	125022.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
125022.00	125196.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
125196.00	132183.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
132183.00	132356.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
132356.00	135624.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
135624.00	136046.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
136046.00	137729.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
137729.00	138214.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
138214.00	139615.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
139615.00	140144.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
140144.00	140944.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
140944.00	141157.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
141157.00	141852.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
141852.00	142089.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
142089.00	143592.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70

I-41 IHSDM Analysis: Outside Shoulder Width Summary

LONG-TERM BUILD ALTERNATIVE

July 29, 2019 (Draft)

Values Equal to Existing

Increasing Stations: I-41 NB (Right)

Stationing			Shoulder Characteristics							Coding Priority
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	Shoulder Width (ft)		*Material*	*Rumble Strips?*	
						Start	*End*			
143592.00	143724.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
143724.00	155243.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
155243.00	155774.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
155774.00	157648.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
157648.00	157926.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
157926.00	161213.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70
161213.00	161386.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	70
161386.00	173661.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	Yes	70

I-41 IHSDM Analysis: Outside Barrier and Clear Zone Summary

LONG-TERM BUILD ALTERNATIVE

July 29, 2019 (Draft)

Values Equal to Existing

Decreasing Stations: I-41 SB (Left)

Stationing			Outside Barrier
Start	*End*	*Side of Road*	Offset (ft)
39517.00	39685.00	Left	12.0
42851.00	43070.00	Left	10.0
43070.00	43386.00	Left	10.0
47177.00	47456.00	Left	10.0
49409.00	49633.00	Left	10.0
49633.00	49954.00	Left	10.0
50607.00	52017.00	Left	26.0
52252.00	52562.00	Left	28.0
53110.00	53518.00	Left	10.0
53518.00	53738.00	Left	10.0
53738.00	54321.00	Left	10.0
54563.00	55271.00	Left	20.0
55271.00	55504.00	Left	12.0
55504.00	55741.00	Left	12.0
55741.00	56062.00	Left	12.0
57380.00	57676.00	Left	12.0
58778.00	59330.00	Left	8.0
61580.00	64820.00	Left	14.0
66694.00	71595.00	Left	12.0
74682.00	75253.00	Left	12.0
76427.00	80383.00	Left	14.0
81634.00	93950.00	Left	14.0
101521.00	101995.00	Left	12.0
125679.00	129898.00	Left	14.0
132917.00	139572.00	Left	14.0
141065.00	141275.00	Left	12.0
142569.00	143552.00	Left	14.0
143552.00	143724.00	Left	12.0
143724.00	154893.00	Left	14.0
158179.00	160520.00	Left	14.0
161212.00	161386.00	Left	12.0

Values Equal to Existing

Increasing Stations: I-41 NB (Right)

Stationing			Outside Barrier
Start	*End*	*Side of Road*	Offset (ft)
39493.00	39661.00	Right	10.0
40471.00	40791.00	Right	10.0
40791.00	40891.00	Right	10.0
40891.00	41191.00	Right	16.0
41191.00	41855.00	Right	22.0
41855.00	41912.00	Right	26.0
42495.00	42817.00	Right	10.0
42817.00	43030.00	Right	10.0
44269.00	44595.00	Right	27.0
44595.00	45255.00	Right	18.0
45255.00	47592.00	Right	12.0
47949.00	48270.00	Right	17.5
48270.00	48398.00	Right	22.5
48398.00	48443.00	Right	27.5
49085.00	49406.00	Right	10.0
49406.00	49628.00	Right	10.0
49628.00	49999.00	Right	10.0
51059.00	51871.00	Right	24.0
51871.00	52100.00	Right	27.0
52834.00	53517.00	Right	10.0
53517.00	53738.00	Right	10.0
53738.00	54396.00	Right	10.0
54866.00	55380.00	Right	21.0
55380.00	55616.00	Right	12.0
55616.00	56849.00	Right	12.0
58778.00	59423.00	Right	12.0
61500.00	66867.00	Right	14.0
67738.00	71862.00	Right	12.0
75900.00	80134.00	Right	14.0
85027.00	85517.00	Right	14.0
89496.00	89839.00	Right	12.0
90152.00	90416.00	Right	12.0
90822.00	91086.00	Right	12.0
101243.00	101710.00	Right	12.0
113460.00	114892.00	Right	10.0
128236.00	131776.00	Right	14.0
133155.00	134215.00	Right	14.0
138665.00	139700.00	Right	14.0
140947.00	141155.00	Right	12.0
142467.00	143552.00	Right	14.0
143552.00	143724.00	Right	12.0
143724.00	154619.00	Right	14.0
158160.00	160584.00	Right	14.0
161212.00	161386.00	Right	12.0

I-41 IHSDM Analysis: Westbound C-D Road General Purpose and Ramp Lane Summary

LONG-TERM BUILD ALTERNATIVE

August 1, 2019 (Draft)

Increasing Stations: CD Road for I-41 SB

Stationing			General Purpose Lane Widths (feet)				Lane Offset		Aux Lane					Parallel Merge/Diverge			
			Lane 1 (Left)		Lane 2 (Right)		Lane 1 (Left)		Aux lane width (ft)		Type of Weave (A, B, or C)	Aux Lane Length (ft)	Count Aux lane as thru?	Location	Gore to Taper Length (ft)	Lane Width End	Count as thru?
Start	*End*	*Location*	*Start*	*End*	*Start*	*End*	*Start*	*End*	*Start*	*End*							
1+02	46+60	Start to STH 441 Exit	12.0	12.0	12.0	12.0	0.000	0.000									
		STH 441 Exit												46+70	0 (lane drop)	12	**Yes**
46+60	49+00	STH 441 Exit to STH 441 Entrance	12.0	12.0			12.000	12.000									
49+00	51+00	STH 441 Exit to STH 441 Entrance	12.0	12.0													
64+32	71+88	STH 441 Exit to STH 441 Entrance	12.0	12.0			12.000	12.000									
		STH 441 Entrance												71+80	0 (add-lane)	12	**Yes**
71+88	81+79	STH 441 Entrance to CTH E Exit	12.0	12.0	12.0	12.0	0.000	0.000	---	---	B	991	No				
		CTH E Exit												81+79	210	15	No
81+79	95+58	CTH E Exit to CTH E Entrance	12.0	12.0	12.0	12.0	0.000	0.000									
95+58	101+10	CTH E Exit to CTH E Entrance	12.0	12.0	12.0	0.0	0.000	0.000									
101+10	105+82	CTH E Exit to CTH E Entrance	12.0	12.0			0.000	0.000									
		CTH E Entrance												105+82	0 (add-lane)	12	**Yes**
105+82	141+66	CTH E Entrance to End	12.0	12.0	12.0	12.0	0.000	0.000									

I-41 IHSDM Analysis: Westbound C-D Road Geometric Input Summary **LONG-TERM BUILD ALTERNATIVE**

August 1, 2019 (Draft)

Inside Shoulder Widths

Stationing			Shoulder Characteristics							Coding Priority
						Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Start*	*End*	*Material*	*Rumble Strips?*	
102.00	14166.00	Left	Inside	0.00	0.00	6.0	6.0	Paved	No	8.0

Outside Shoulder Widths

Stationing			Shoulder Characteristics							Coding Priority
						Shoulder Width (ft)				
Start	*End*	*Side of Road*	*Shoulder Side*	*Start Slope*	*End Slope*	*Start*	*End*	*Material*	*Rumble Strips?*	
102.00	14166.00	Right	Outside	0.0	0.0	12.0	12.0	Paved	No	50

Outside Barrier

Stationing			Outside Barrier			Clear Zone
Start	*End*	*Approximate Location*	Present?	Type?	Part of Freeway?	Distance (feet)
102.00	8179.00	Start to CTH E Exit	Yes	Barrier	Yes	Assumed 30'
9019.00	9572.00	CTH E	Yes	Barrier	Yes	Assumed 30'

Median Barrier

Stationing				Median Barrier	
Start	*End*	*Side of Road*	*Location*	Present?	Offset (ft)[1]
102.00	14166.00	Left	Start to End of CD Road	Yes	6.0

[1] - Specify the value as the distance from the edge of the leftmost thru lane to the face of the barrier. (Value from edge of leftmost thru lane if centered)

ATTACHMENT J
LONG-TERM BUILD ALTERNATIVE TRAFFIC INPUTS

I-41 IHSDM Analysis: 2028 Traffic Input Summary (Daily Volumes and High-Volume Hours) **LONG-TERM BUILD ALTERNATIVE**

August 2019 (Draft)

	IHSDM AADT Volume Inputs							
Segment	**Station Start**	**Station End**	**Build Year**	**2-way AADT (vpd)**	**Mainline Description**	**Ramp Notes**	**# Lanes (2-way)**	**Percent High Volume Hours***
1a	392+00	419+00	2028	79,950	South of CTH BB		6	0.25
1b	419+00	419+10	2028	73,750	CTH BB southern ramps, between gores	Includes SB on, Excludes NB off	6	0.07
2a	419+10	441+50	2028	68,500	At CTH BB		6	0.07
2b	441+50	445+35	2028	74,250	CTH BB northern ramps, between gores	Includes SB off, Excludes NB on	6	0.07
2c	445+35	477+75	2028	80,100	CTH BB to STH 125		6	0.19
2d	477+75	483+95	2028	72,500	STH 125 southern ramps, between gores	Includes NB off, Excludes SB on	6	0.07
3a	483+95	505+55	2028	63,100	At STH 125		6	0.00
3b	505+55	510+55	2028	68,050	STH 125 northern ramps, between gores	Includes SB off, Excludes NB on	6	0.07
3c	510+55	521+85	2028	73,400	STH 125 to STH 96		6	0.13
3d	521+85	523+00	2028	66,250	STH 96 southern ramps, between gores	Includes NB off, Excludes SB on	6	0.00
4a	523+00	546+35	2028	58,700	At STH 96		6	0.00
4b	546+35	548+10	2028	64,950	STH 96 northern ramps, between gores	Includes SB off, Excludes NB on	6	0.00
4c	548+10	574+62	2028	71,100	STH 96 to STH 15		6	0.07
4d	574+62	593+12	2028	62,600	STH 15 southern ramps, between gores	Includes SB on, Excludes NB off	6	0.00
5a	593+12	603+60	2028	56,150	At STH 15		6	0.00
5b	603+60	605+48	2028	64,700	STH 15 northern ramps, between gores	Includes NB on, Excludes SB off	6	0.00
5c	605+48	735+80	2028	75,200	STH 15 to STH 47		6	0.20
5d	735+80	736+00	2028	69,450	STH 47 southern ramps, between gores	Includes SB on, Excludes NB off	6	0.07
6a	736+00	759+40	2028	63,000	At STH 47		6	0.00
6b	759+40	762+25	2028	70,250	STH 47 northern ramps, between gores	Includes NB on, Excludes SB off	6	0.07
6c	762+25	806+00	2028	77,550	STH 47 to CTH E (CD Road)		6	0.20
6d	806+00	841+84	2028	57,500	CTH E southern ramps, between gores	Includes NB off, Excludes SB on	6	0.00
7a	841+84	865+46	2028	49,650	At CTH E		6	0.00
7b	865+46	890+34	2028	60,350	CTH E to STH 441		6	0.00
8a	890+34	916+50	2028	47,450	At STH 441		6	0.00
8b	916+50	946+59	2028	54,750	STH 441 northern ramps, between gores	Includes SB off, Excludes NB on	6	0.00
8c	946+59	1004+67	2028	68,350	STH 441 (CD Road) to CTH N		6	0.07
8d	1004+67	1006+57	2028	63,200	CTH N southern ramps, between gores	Includes SB on, Excludes NB off	6	0.00
9a	1006+57	1026+52	2028	57,800	At CTH N		6	0.00
9b	1026+52	1028+25	2028	60,200	CTH N northern ramps, between gores	Includes NB on, Excludes SB off	6	0.00
9c	1028+25	1111+37	2028	63,250	CTH N to STH 55		6	0.00
9d	1111+37	1112+57	2028	59,350	STH 55 southern ramps, between gores	Includes NB off, Excludes SB on	6	0.00
10a	1112+57	1135+14	2028	55,350	At STH 55		6	0.00
10b	1135+14	1135+16	2028	57,300	STH 55 northern ramps, between gores	Includes SB off, Excludes NB on	6	0.00
10c	1135+16	1174+24	2028	58,850	STH 55 to CTH J		6	0.00
10d	1174+24	1177+58	2028	55,250	CTH J southern ramps, between gores	Includes SB on, Excludes NB off	6	0.00
11a	1177+58	1195+58	2028	51,550	At CTH J		6	0.00
11b	1195+58	1198+99	2028	54,800	CTH J northern ramps, between gores	Includes NB on, Excludes SB off	6	0.00
11c	1198+99	1356+91	2028	57,900	CTH J to weigh station		6	0.00
11d	1356+91	1380+34	2028	57,750	At weigh station	Excludes weigh station volume (150 vpd)	6	0.00
11e	1380+34	1398+25	2028	57,900	Weigh station to CTH U		6	0.00
11f	1398+25	1401+44	2028	56,600	CTH U southern ramps, between gores	Includes SB on, Excludes NB off	6	0.00
12a	1401+44	1420+04	2028	54,850	At CTH U		6	0.00
12b	1420+04	1425+74	2028	57,150	CTH U northern ramps, between gores	Includes NB on, Excludes SB off	6	0.00
12c	1425+74	1554+56	2028	59,550	CTH U to CTH S		6	0.00
12d	1554+56	1555+90	2028	57,750	CTH S southern ramps, between gores	Includes SB on, Excludes NB off	6	0.00
13a	1555+90	1578+38	2028	55,400	At CTH S		6	0.00
13b	1578+38	1581+16	2028	59,000	CTH S northern ramps, between gores	Includes NB on, Includes SB off	6	0.00
13c	1581+16	1736+61	2028	62,200	CTH S to CTH F		6	0.00

**See High-Volume Hours attachment for the Long-Term Build Alternative to view the high-volume hours calculations for each individual traffic volume segment.*

I-41 Daily Traffic

August 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

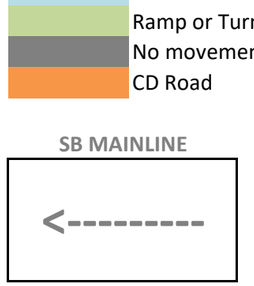
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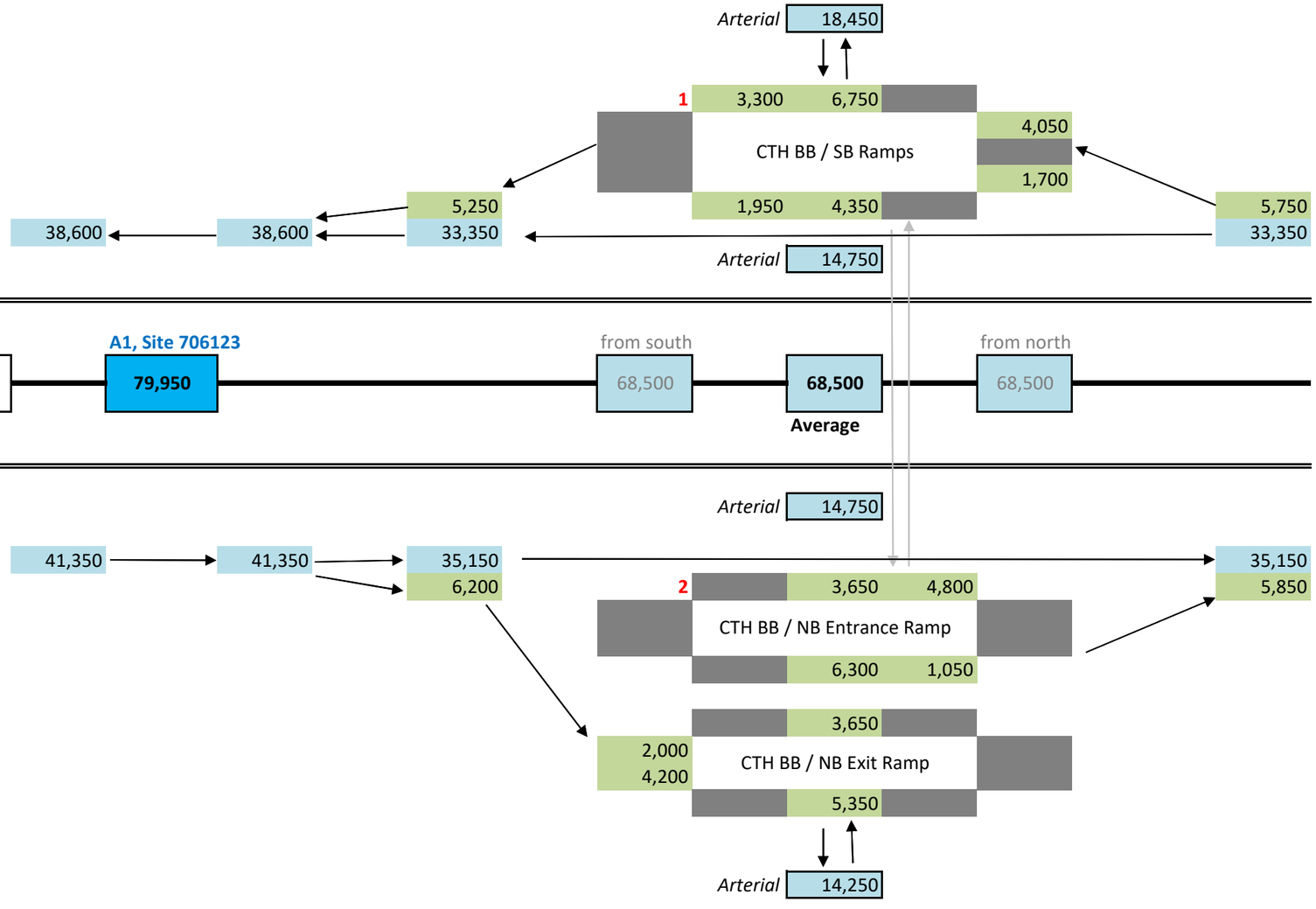
AADT volumes are balanced

Diagram not to scale

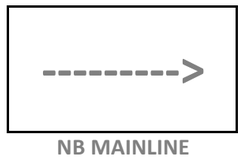
- Mainline Count
- Calculated Volume
- Ramp or Turn
- No movement
- CD Road

SB MAINLINE





NB MAINLINE



I-41 Daily Traffic

August 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

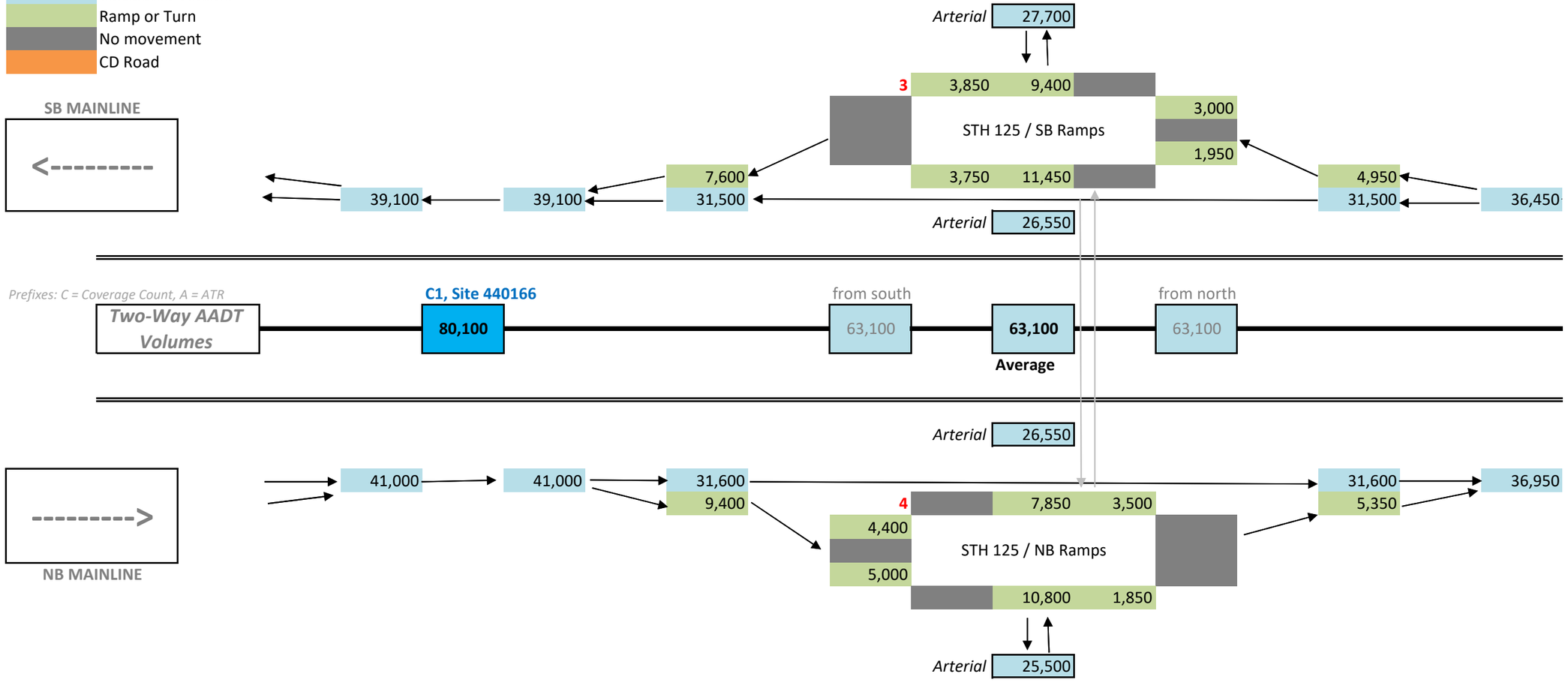
Graphic Notes:

AADT volumes are balanced

Diagram not to scale

- Mainline Count
- Calculated Volume
- Ramp or Turn
- No movement
- CD Road

SB MAINLINE



NB MAINLINE

I-41 Daily Traffic

August 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

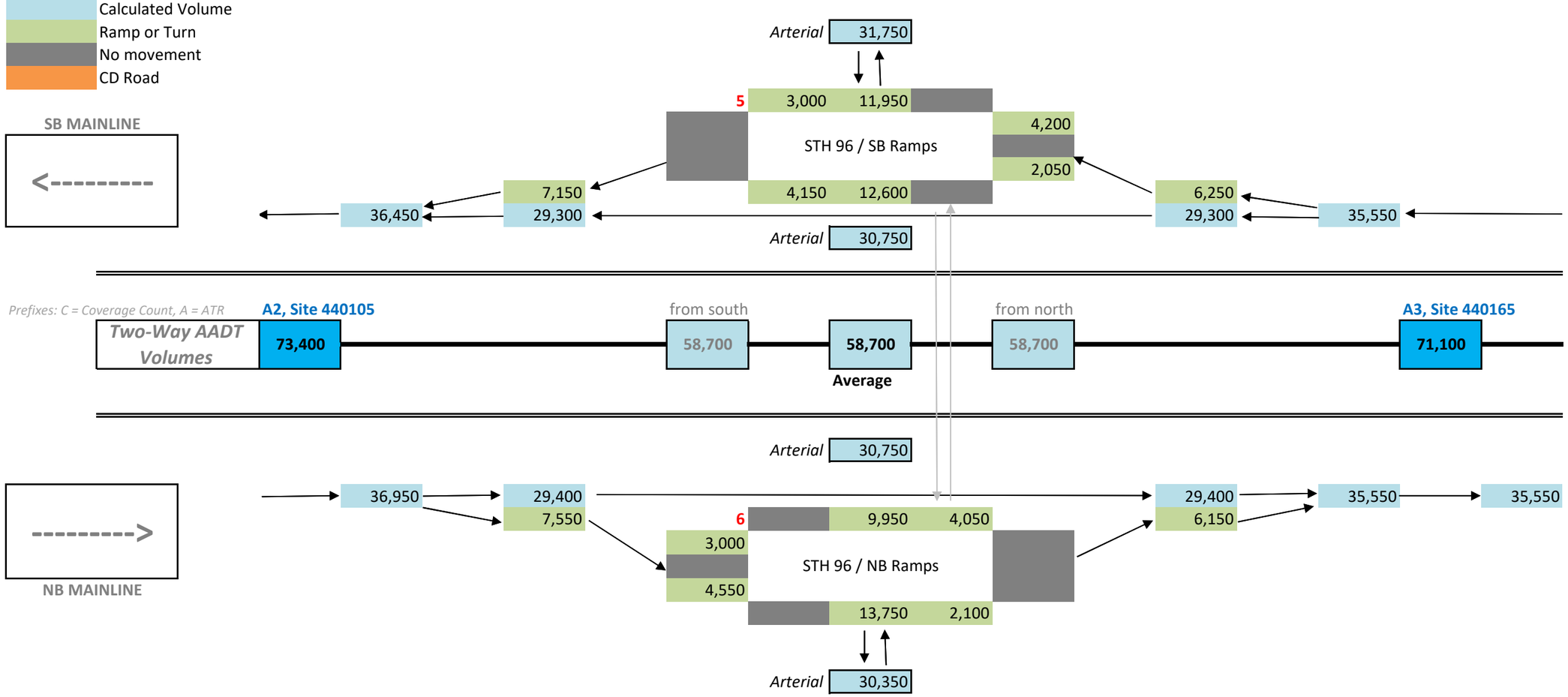
Mainline Count

Calculated Volume

Ramp or Turn

No movement

CD Road



I-41 Daily Traffic

August 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

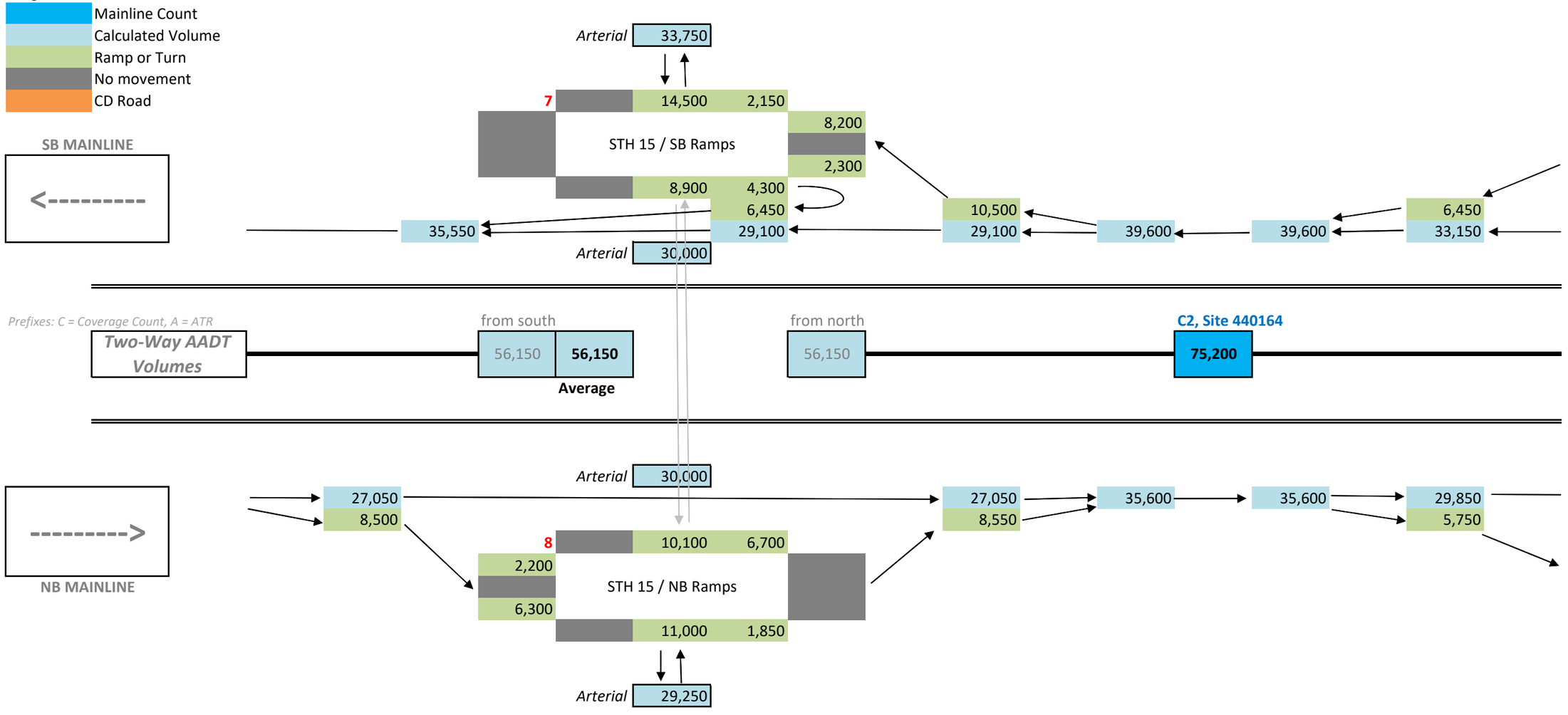
Mainline Count

Calculated Volume

Ramp or Turn

No movement

CD Road



I-41 Daily Traffic

August 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

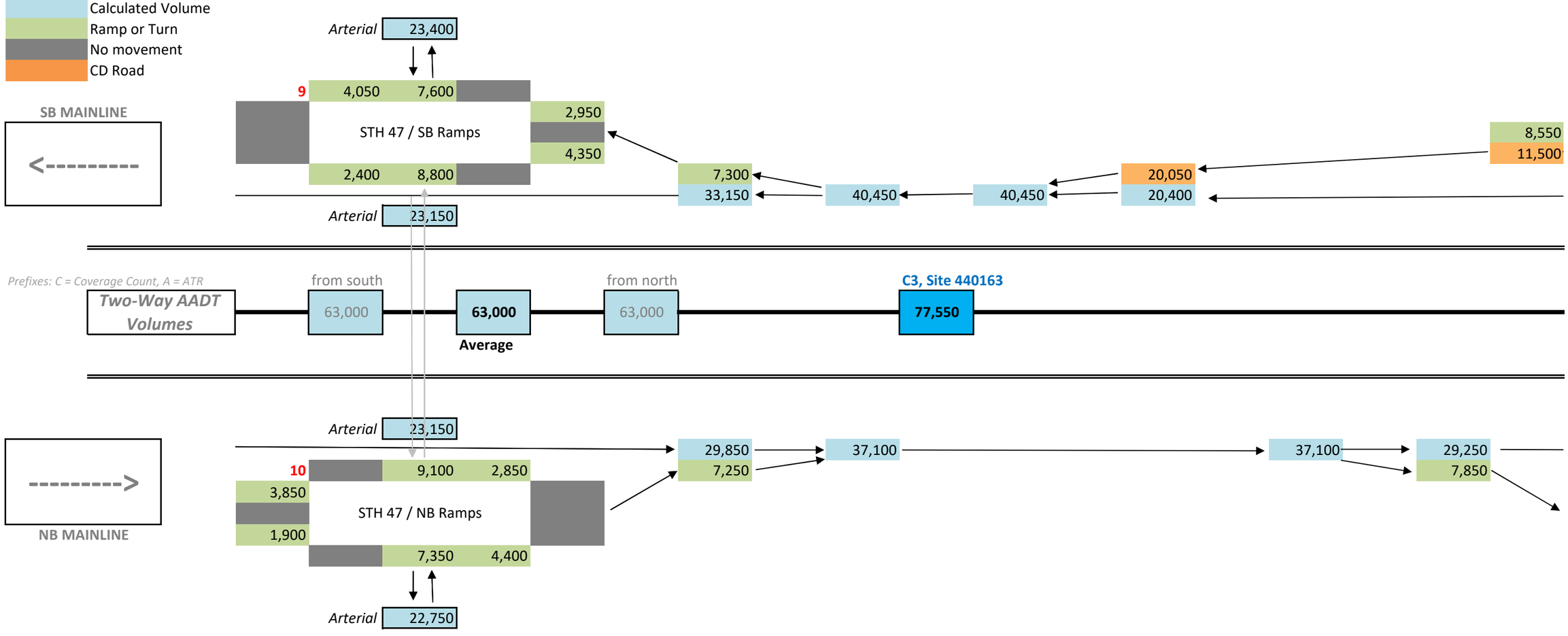
Mainline Count

Calculated Volume

Ramp or Turn

No movement

CD Road



I-41 Daily Traffic

August 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

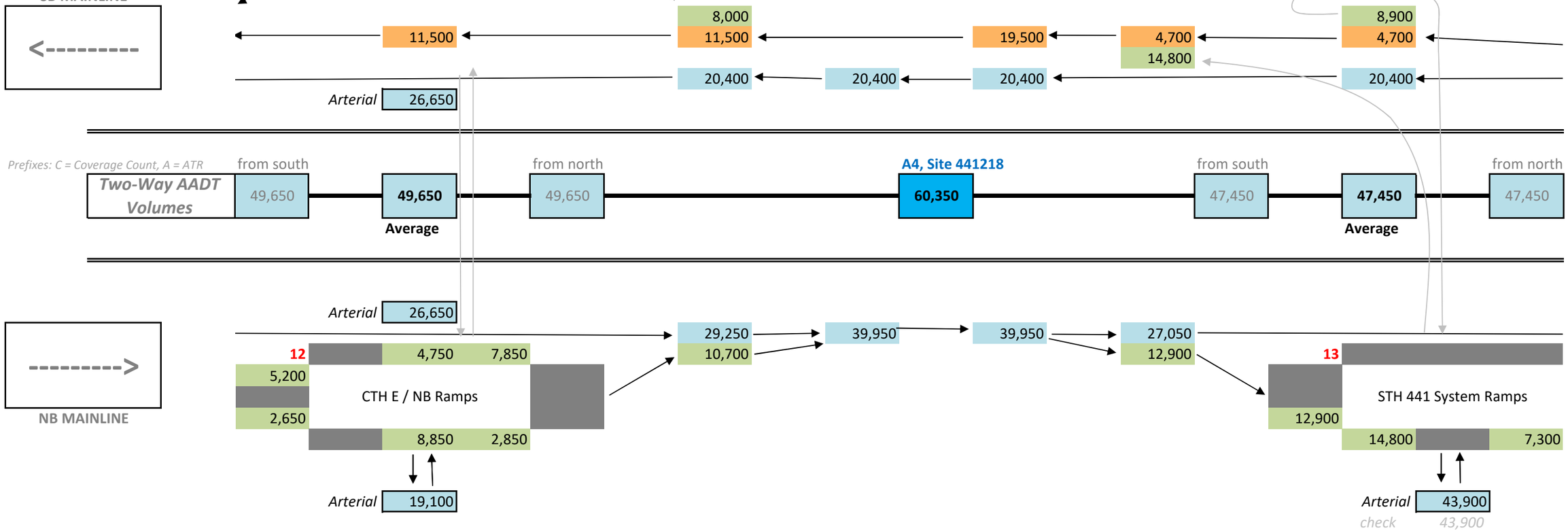
Mainline Count

Calculated Volume

Ramp or Turn

No movement

CD Road



I-41 Daily Traffic

August 2019 (Draft)

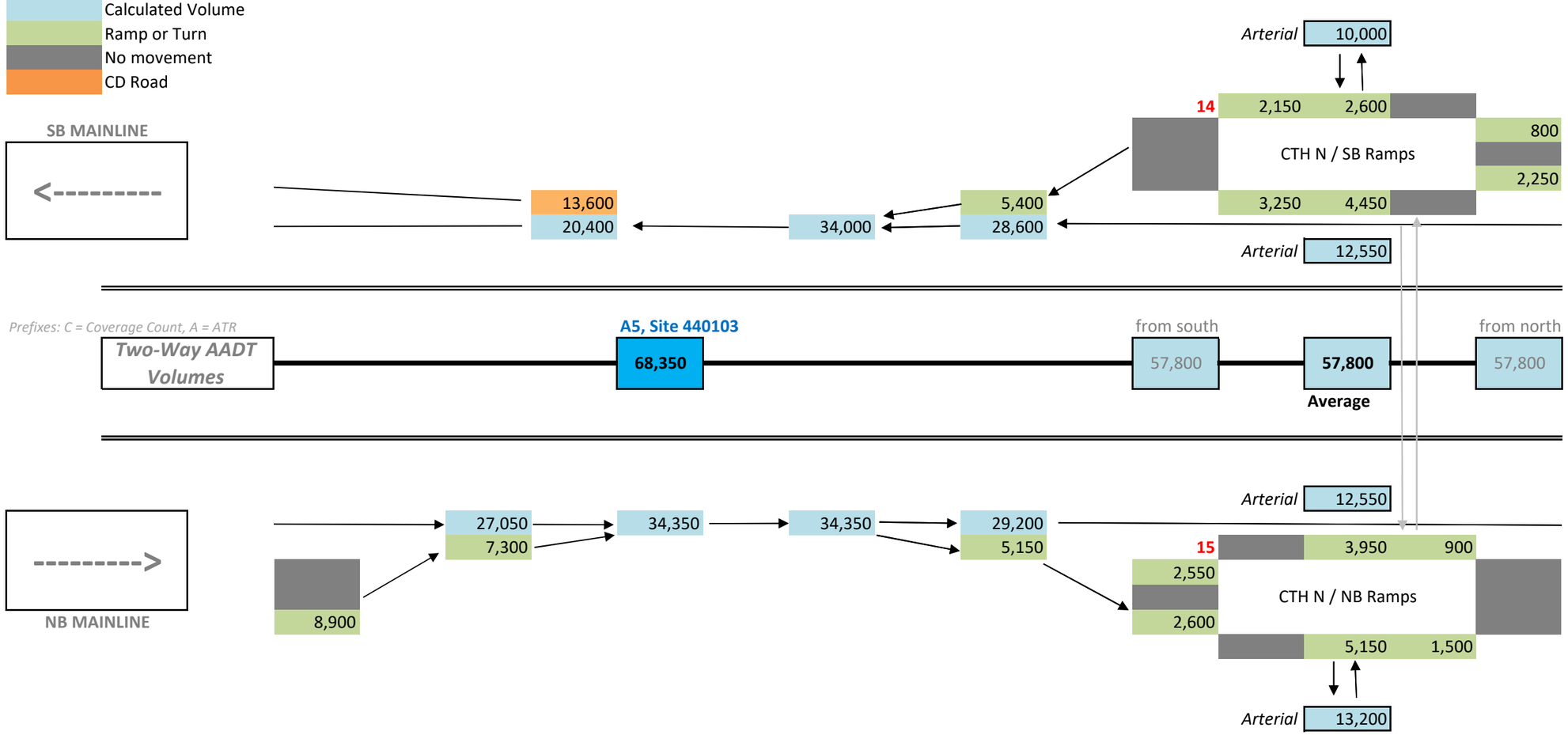
Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

- Mainline Count
- Calculated Volume
- Ramp or Turn
- No movement
- CD Road



I-41 Daily Traffic

August 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

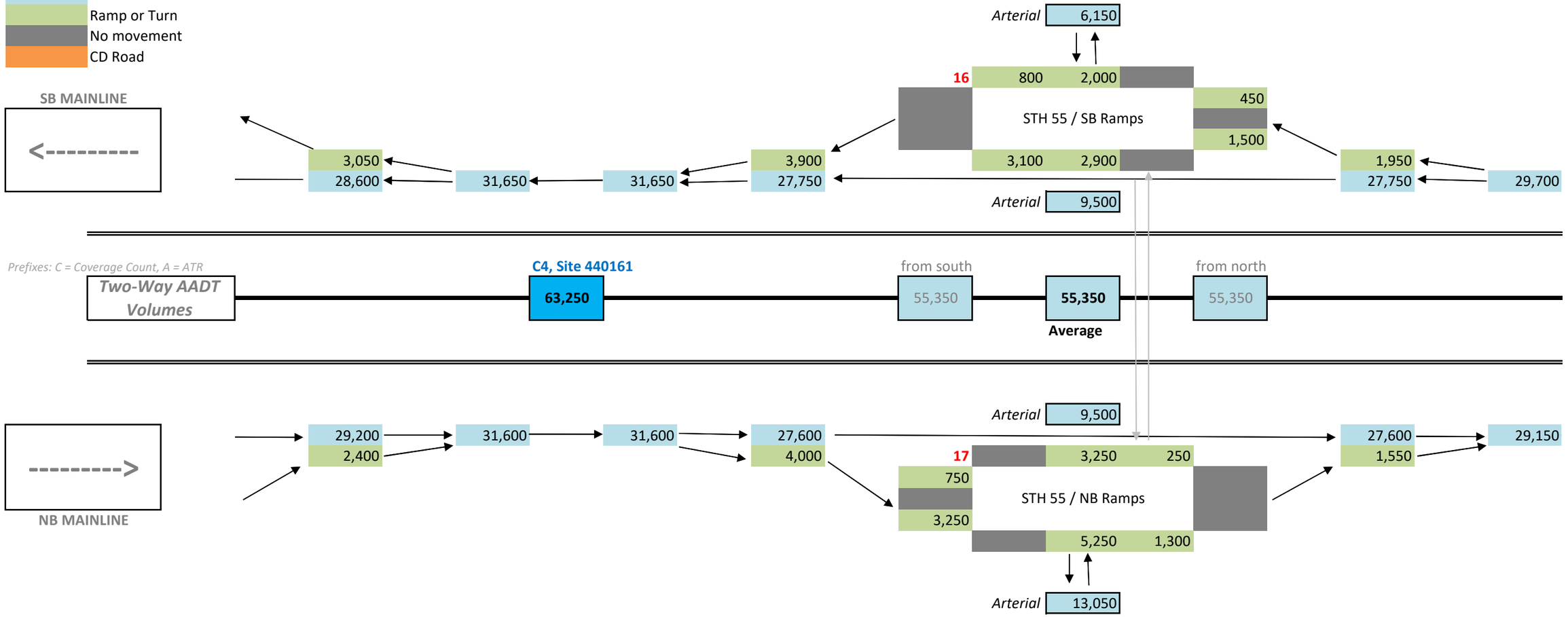
Mainline Count

Calculated Volume

Ramp or Turn

No movement

CD Road



I-41 Daily Traffic

August 2019 (Draft)

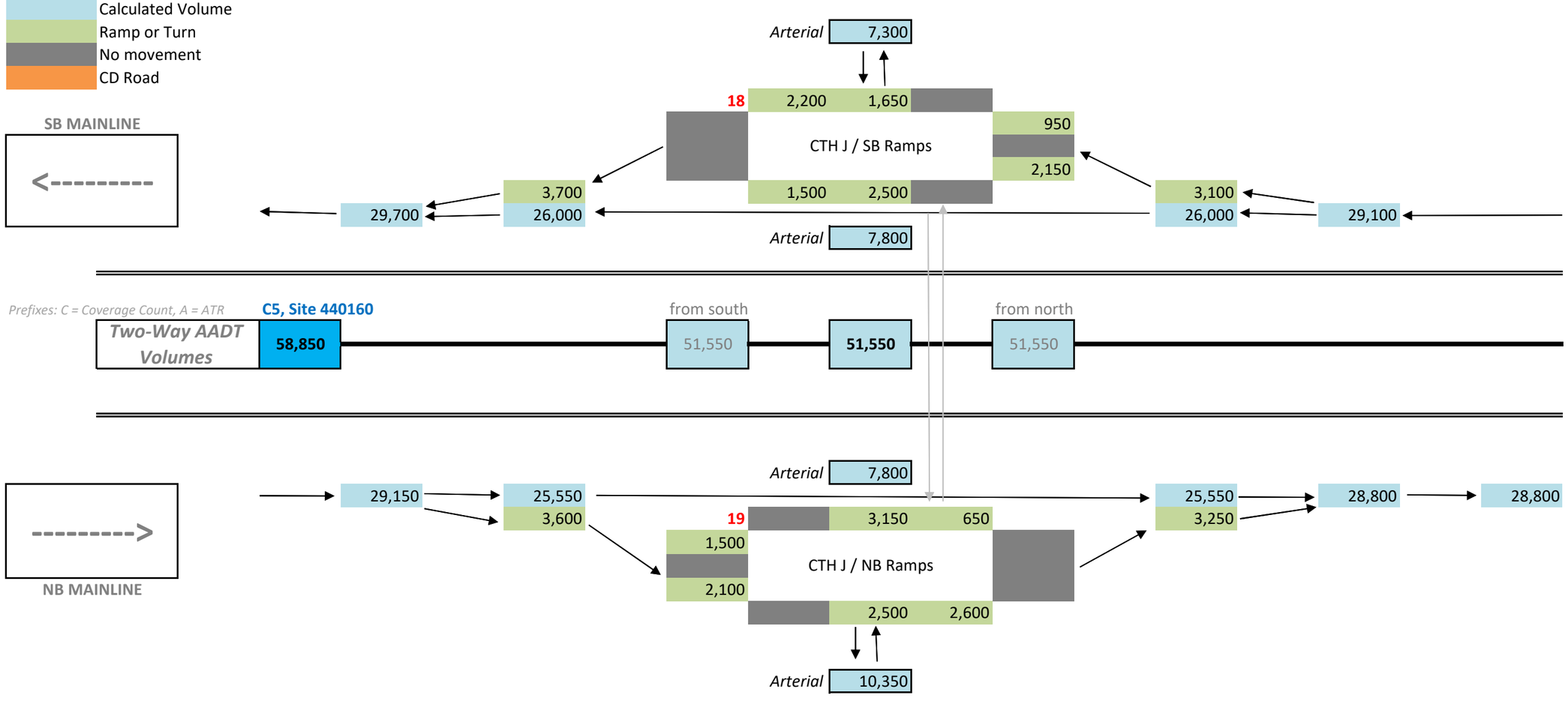
Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

- Mainline Count
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I-41 Daily Traffic

August 2019 (Draft)

Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

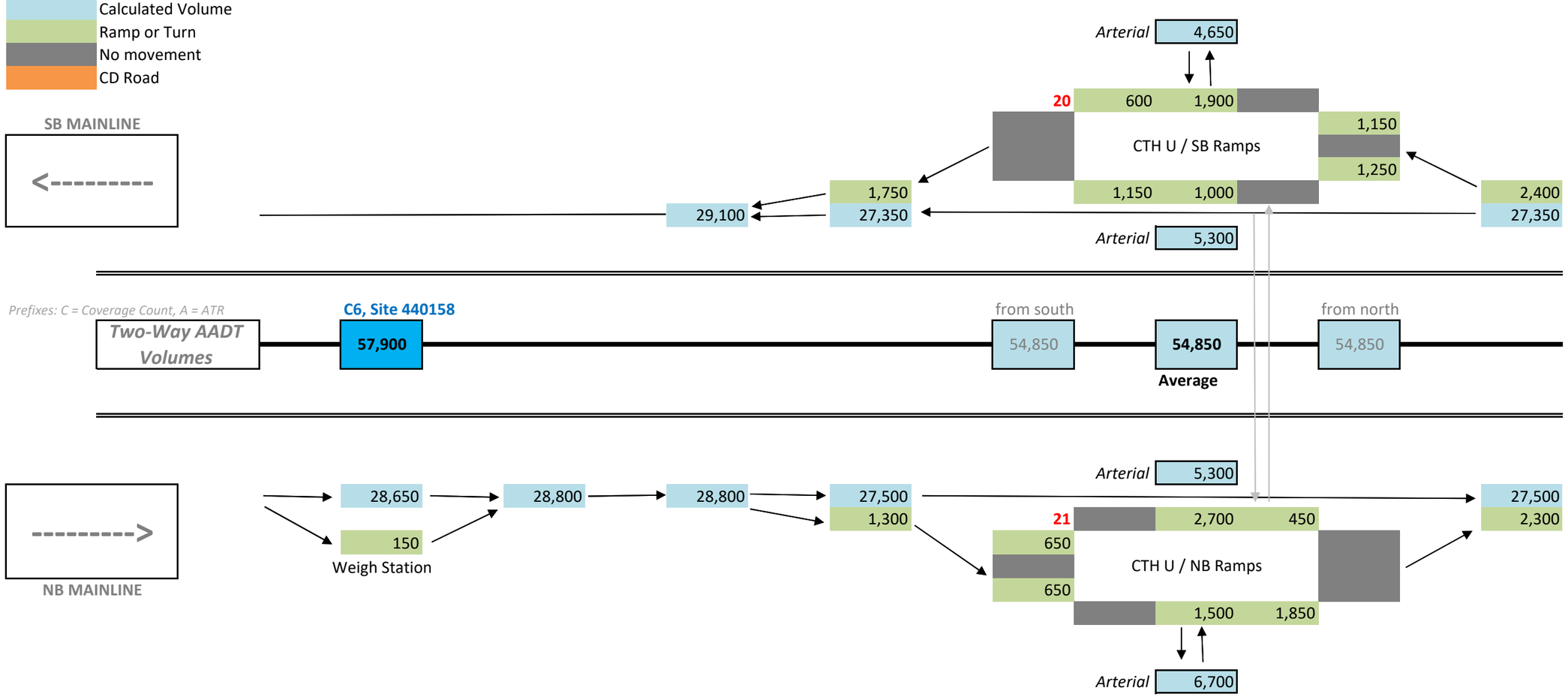
Mainline Count

Calculated Volume

Ramp or Turn

No movement

CD Road



I-41 Daily Traffic

August 2019 (Draft)

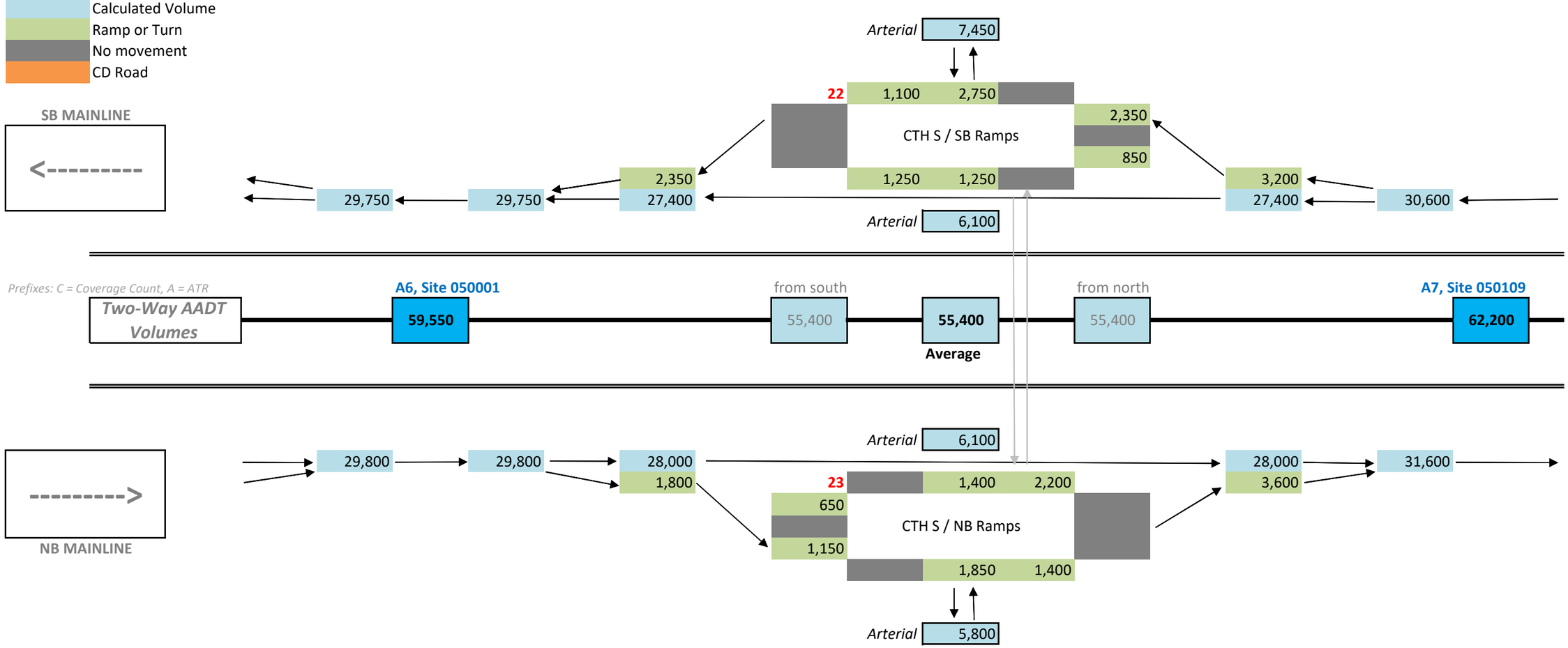
Volume Scenario	Interim (2028) AADT Volumes

Graphic Notes:

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Diagram not to scale

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- Ramp or Turn
- No movement
- CD Road



I-41 IHSDM Analysis: 2048 Traffic Input Summary (Daily Volumes and High-Volume Hours)

LONG-TERM BUILD ALTERNATIVE

August 2019 (Draft)

	IHSDM AADT Volume Inputs							
Segment	**Station Start**	**Station End**	**Build Year**	**2-way AADT (vpd)**	**Mainline Description**	**Ramp Notes**	**# Lanes (2-way)**	**Percent High Volume Hours***
1a	392+00	419+00	2048	91,000	South of CTH BB		6	0.31
1b	419+00	419+10	2048	84,750	CTH BB southern ramps, between gores	Includes SB on, Excludes NB off	6	0.25
2a	419+10	441+50	2048	79,350	At CTH BB		6	0.19
2b	441+50	445+35	2048	87,100	CTH BB northern ramps, between gores	Includes SB off, Excludes NB on	6	0.25
2c	445+35	477+75	2048	95,100	CTH BB to STH 125		6	0.30
2d	477+75	483+95	2048	87,300	STH 125 southern ramps, between gores	Includes NB off, Excludes SB on	6	0.25
3a	483+95	505+55	2048	77,350	At STH 125		6	0.20
3b	505+55	510+55	2048	83,600	STH 125 northern ramps, between gores	Includes SB off, Excludes NB on	6	0.26
3c	510+55	521+85	2048	90,500	STH 125 to STH 96		6	0.31
3d	521+85	523+00	2048	81,550	STH 96 southern ramps, between gores	Includes NB off, Excludes SB on	6	0.26
4a	523+00	546+35	2048	73,400	At STH 96		6	0.07
4b	546+35	548+10	2048	81,450	STH 96 northern ramps, between gores	Includes SB off, Excludes NB on	6	0.25
4c	548+10	574+62	2048	89,850	STH 96 to STH 15		6	0.30
4d	574+62	593+12	2048	79,900	STH 15 southern ramps, between gores	Includes SB on, Excludes NB off	6	0.25
5a	593+12	603+60	2048	71,950	At STH 15		6	0.07
5b	603+60	605+48	2048	84,350	STH 15 northern ramps, between gores	Includes NB on, Excludes SB off	6	0.25
5c	605+48	735+80	2048	99,600	STH 15 to STH 47		6	0.30
5d	735+80	736+00	2048	91,550	STH 47 southern ramps, between gores	Includes SB on, Excludes NB off	6	0.25
6a	736+00	759+40	2048	82,400	At STH 47		6	0.26
6b	759+40	762+25	2048	92,050	STH 47 northern ramps, between gores	Includes NB on, Excludes SB off	6	0.26
6c	762+25	806+00	2048	101,550	STH 47 to CTH E (CD Road)		6	0.31
6d	806+00	841+84	2048	75,450	CTH E southern ramps, between gores	Includes NB off, Excludes SB on	6	0.14
7a	841+84	865+46	2048	65,050	At CTH E		6	0.00
7b	865+46	890+34	2048	79,100	CTH E to STH 441		6	0.25
8a	890+34	916+50	2048	62,000	At STH 441		6	0.00
8b	916+50	946+59	2048	71,350	STH 441 northern ramps, between gores	Includes SB off, Excludes NB on	6	0.07
8c	946+59	1004+67	2048	89,050	STH 441 (CD Road) to CTH N		6	0.26
8d	1004+67	1006+57	2048	82,550	CTH N southern ramps, between gores	Includes SB on, Excludes NB off	6	0.26
9a	1006+57	1026+52	2048	75,400	At CTH N		6	0.20
9b	1026+52	1028+25	2048	79,050	CTH N northern ramps, between gores	Includes NB on, Excludes SB off	6	0.20
9c	1028+25	1111+37	2048	83,650	CTH N to STH 55		6	0.26
9d	1111+37	1112+57	2048	78,150	STH 55 southern ramps, between gores	Includes NB off, Excludes SB on	6	0.20
10a	1112+57	1135+14	2048	72,350	At STH 55		6	0.21
10b	1135+14	1135+16	2048	75,050	STH 55 northern ramps, between gores	Includes SB off, Excludes NB on	6	0.21
10c	1135+16	1174+24	2048	77,250	STH 55 to CTH J		6	0.21
10d	1174+24	1177+58	2048	71,500	CTH J southern ramps, between gores	Includes SB on, Excludes NB off	6	0.21
11a	1177+58	1195+58	2048	65,600	At CTH J		6	0.07
11b	1195+58	1198+99	2048	69,950	CTH J northern ramps, between gores	Includes NB on, Excludes SB off	6	0.14
11c	1198+99	1356+91	2048	74,500	CTH J to weigh station		6	0.21
11d	1356+91	1380+34	2048	74,350	At weigh station	Excludes weigh station volume (150 vpd)	6	0.21
11e	1380+34	1398+25	2048	74,500	Weigh station to CTH U		6	0.21
11f	1398+25	1401+44	2048	72,700	CTH U southern ramps, between gores	Includes SB on, Excludes NB off	6	0.21
12a	1401+44	1420+04	2048	70,200	At CTH U		6	0.14
12b	1420+04	1425+74	2048	74,150	CTH U northern ramps, between gores	Includes NB on, Excludes SB off	6	0.20
12c	1425+74	1554+56	2048	77,950	CTH U to CTH S		6	0.20
12d	1554+56	1555+90	2048	75,400	CTH S southern ramps, between gores	Includes SB on, Excludes NB off	6	0.20
13a	1555+90	1578+38	2048	72,050	At CTH S		6	0.14
13b	1578+38	1581+16	2048	76,750	CTH S northern ramps, between gores	Includes NB on, Includes SB off	6	0.20
13c	1581+16	1736+61	2048	80,950	CTH S to CTH F		6	0.26

**See High-Volume Hours attachment for the Long-Term Build Alternative to view the high-volume hours calculations for each individual traffic volume segment.*

I-41 Daily Traffic

August 2019 (Draft)

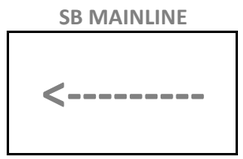
Volume Scenario	Build +1 (2048) AADT Volumes

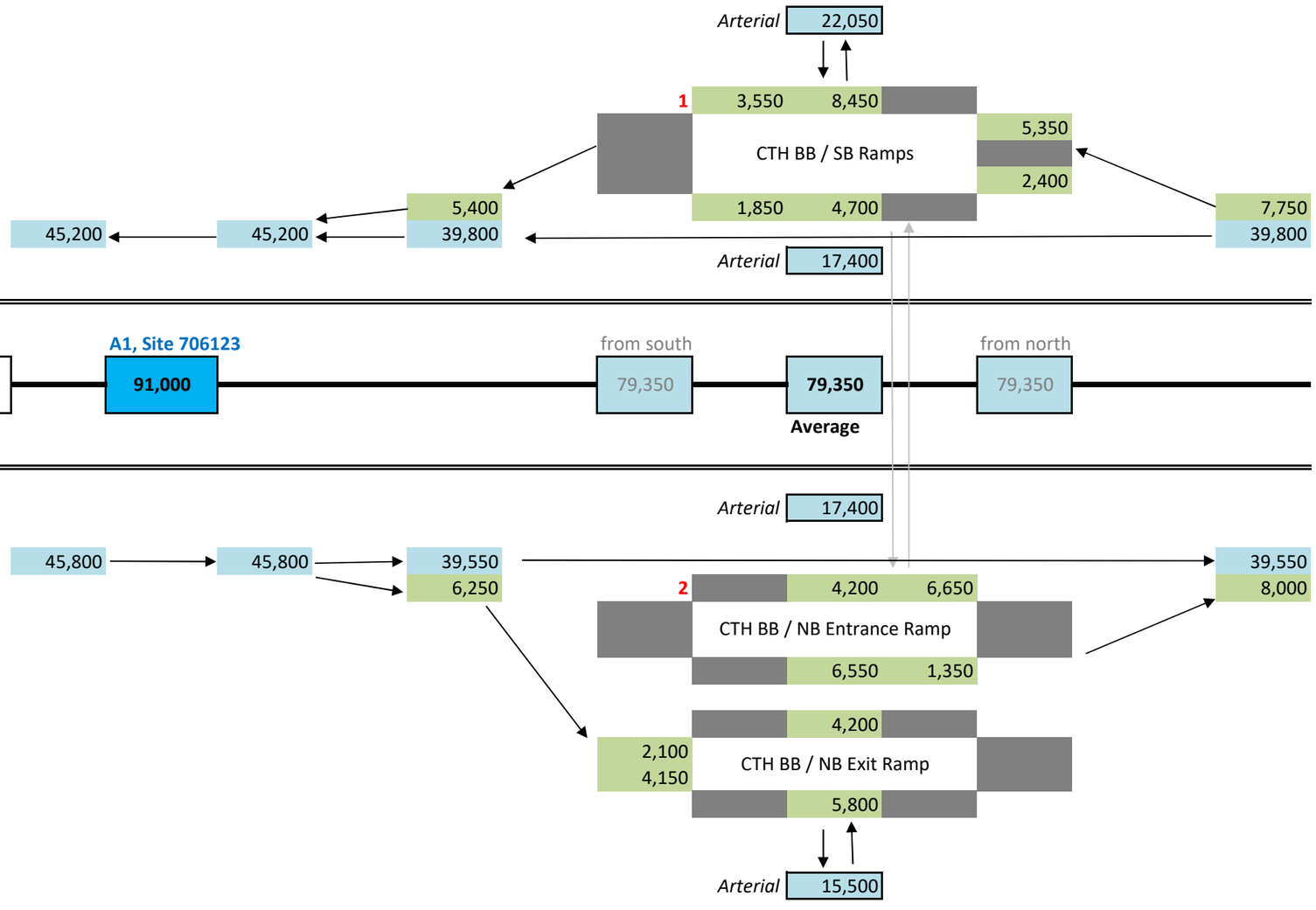
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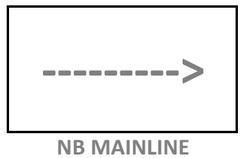
AADT volumes are balanced

Diagram not to scale

- Mainline Count
- Calculated Volume
- Ramp or Turn
- No movement
- CD Road







I-41 Daily Traffic

August 2019 (Draft)

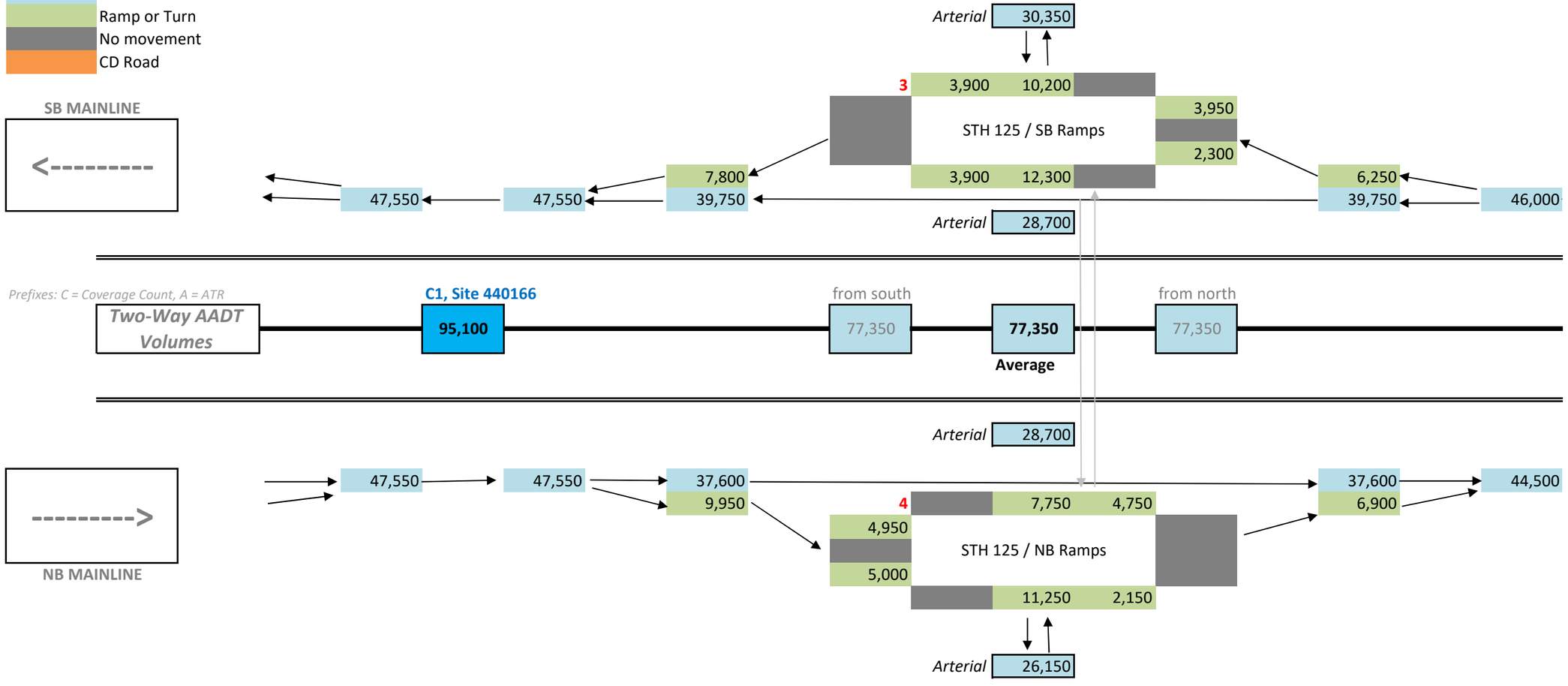
Volume Scenario	Build +1 (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

- Mainline Count
- Calculated Volume
- Ramp or Turn
- No movement
- CD Road



I-41 Daily Traffic

August 2019 (Draft)

Volume Scenario	Build +1 (2048) AADT Volumes

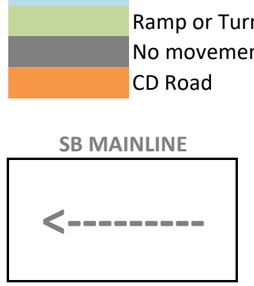
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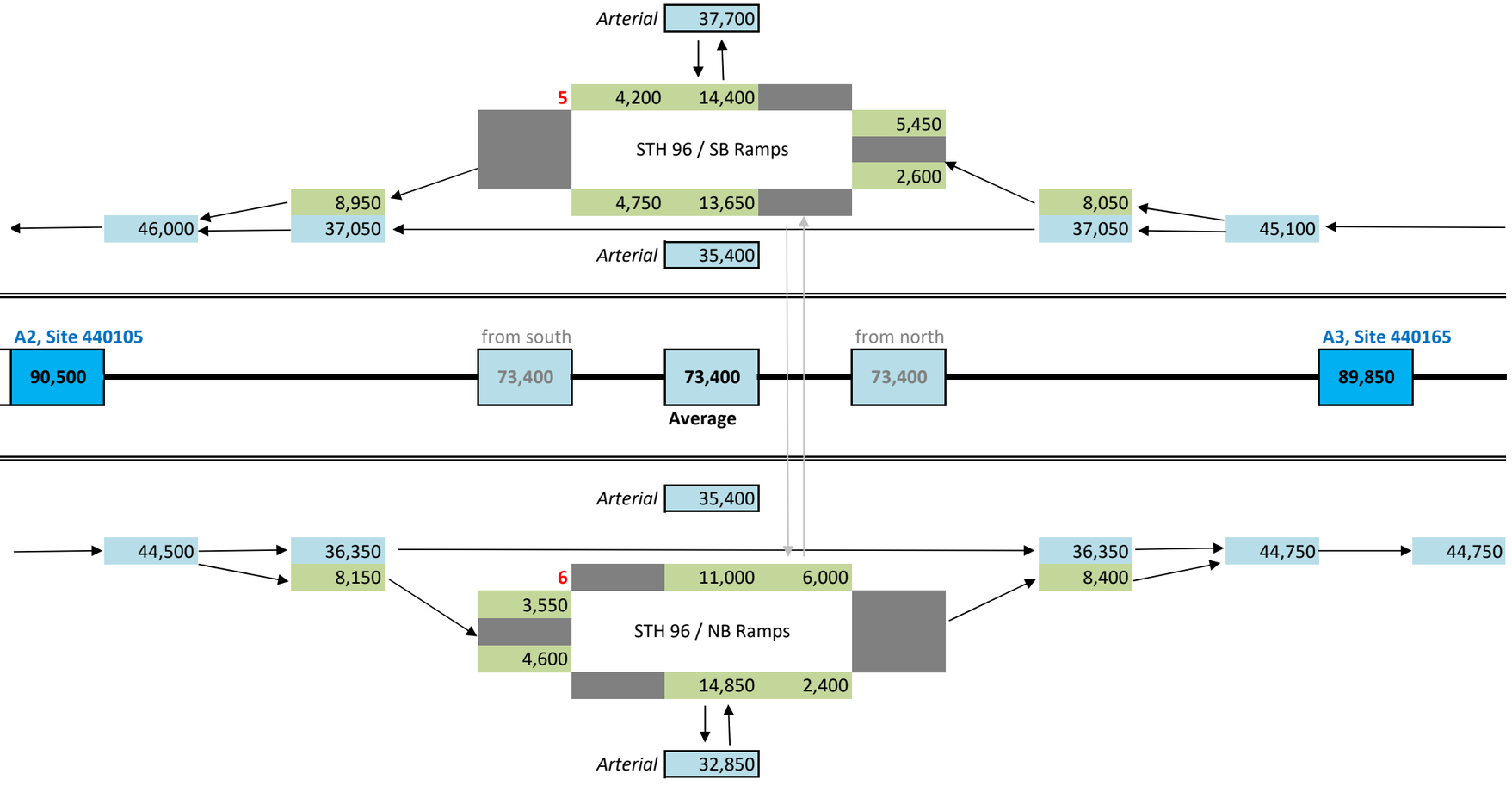
AADT volumes are balanced

Diagram not to scale

- Mainline Count
- Calculated Volume
- Ramp or Turn
- No movement
- CD Road

SB MAINLINE





NB MAINLINE

I-41 Daily Traffic

August 2019 (Draft)

Volume Scenario	Build +1 (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

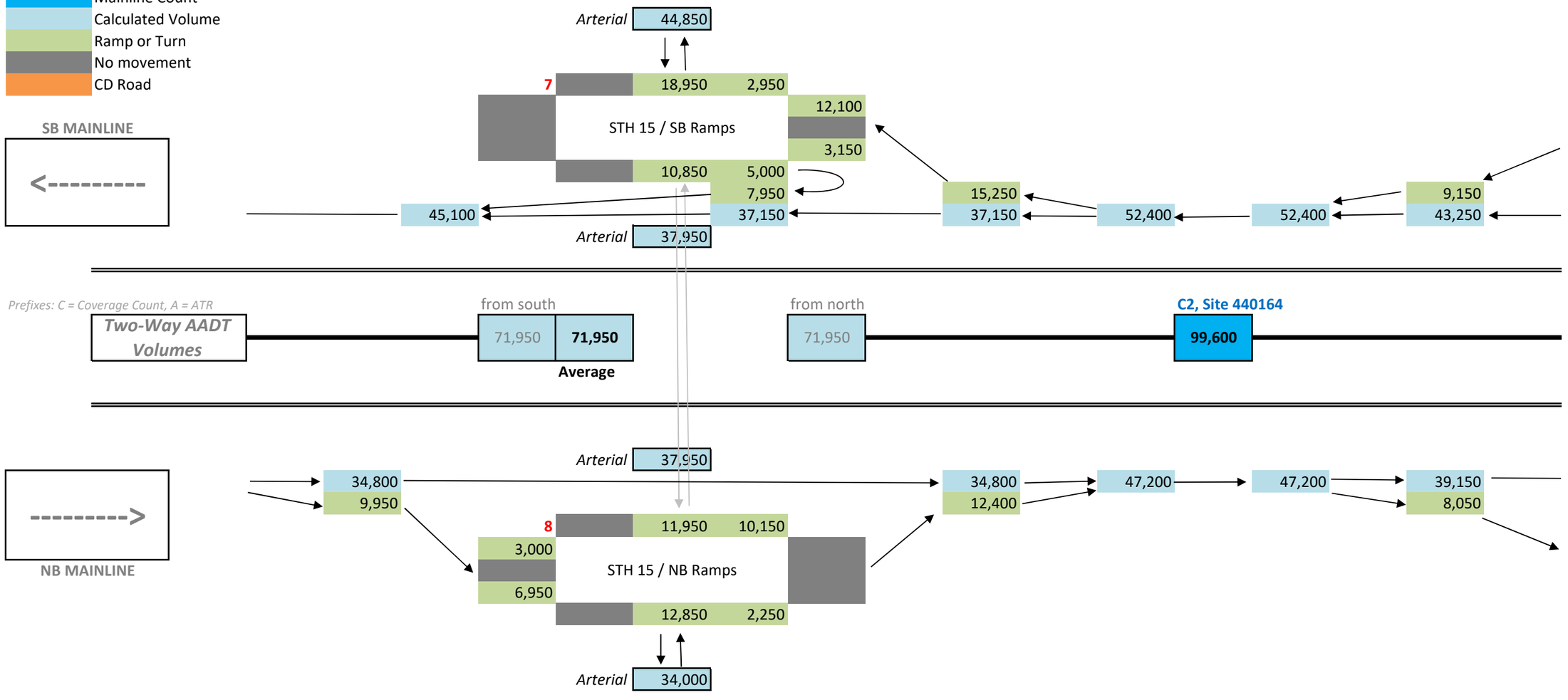
Mainline Count

Calculated Volume

Ramp or Turn

No movement

CD Road



I-41 Daily Traffic

August 2019 (Draft)

Volume Scenario	Build +1 (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

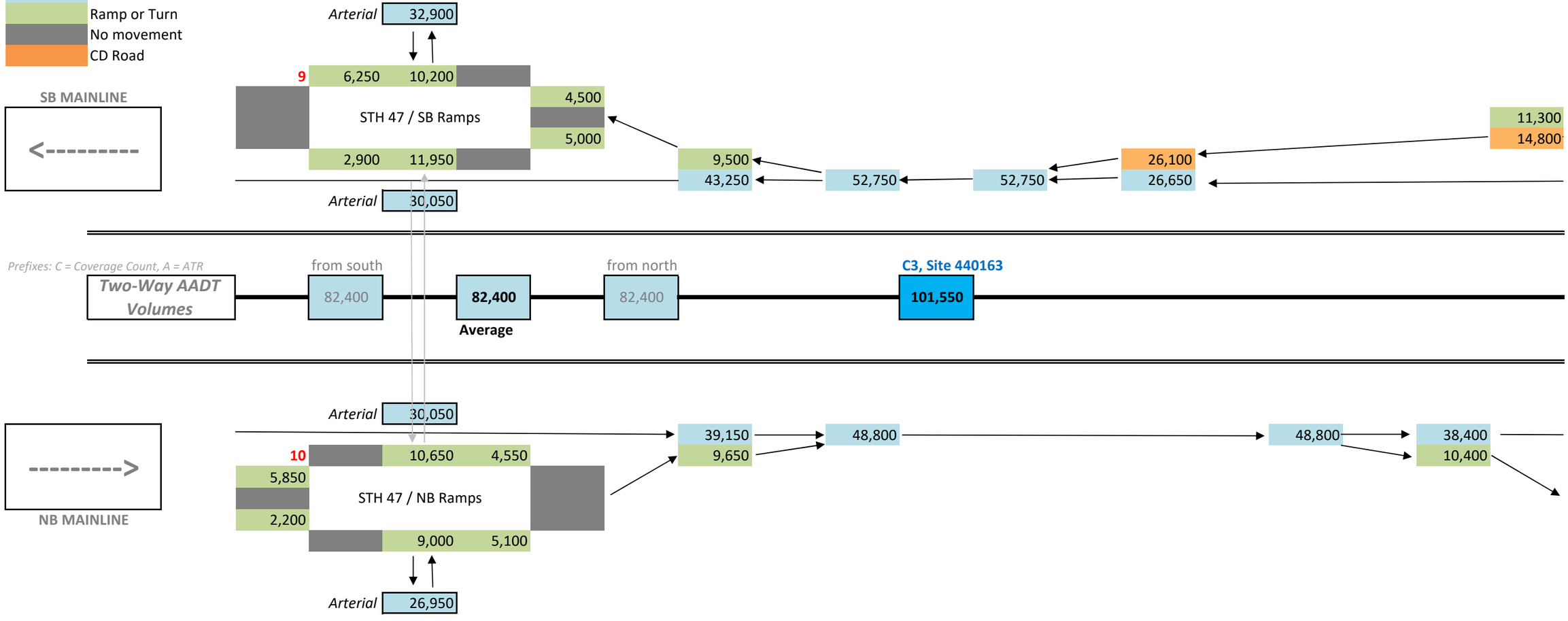
Mainline Count

Calculated Volume

Ramp or Turn

No movement

CD Road



I-41 Daily Traffic

August 2019 (Draft)

Volume Scenario	Build +1 (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

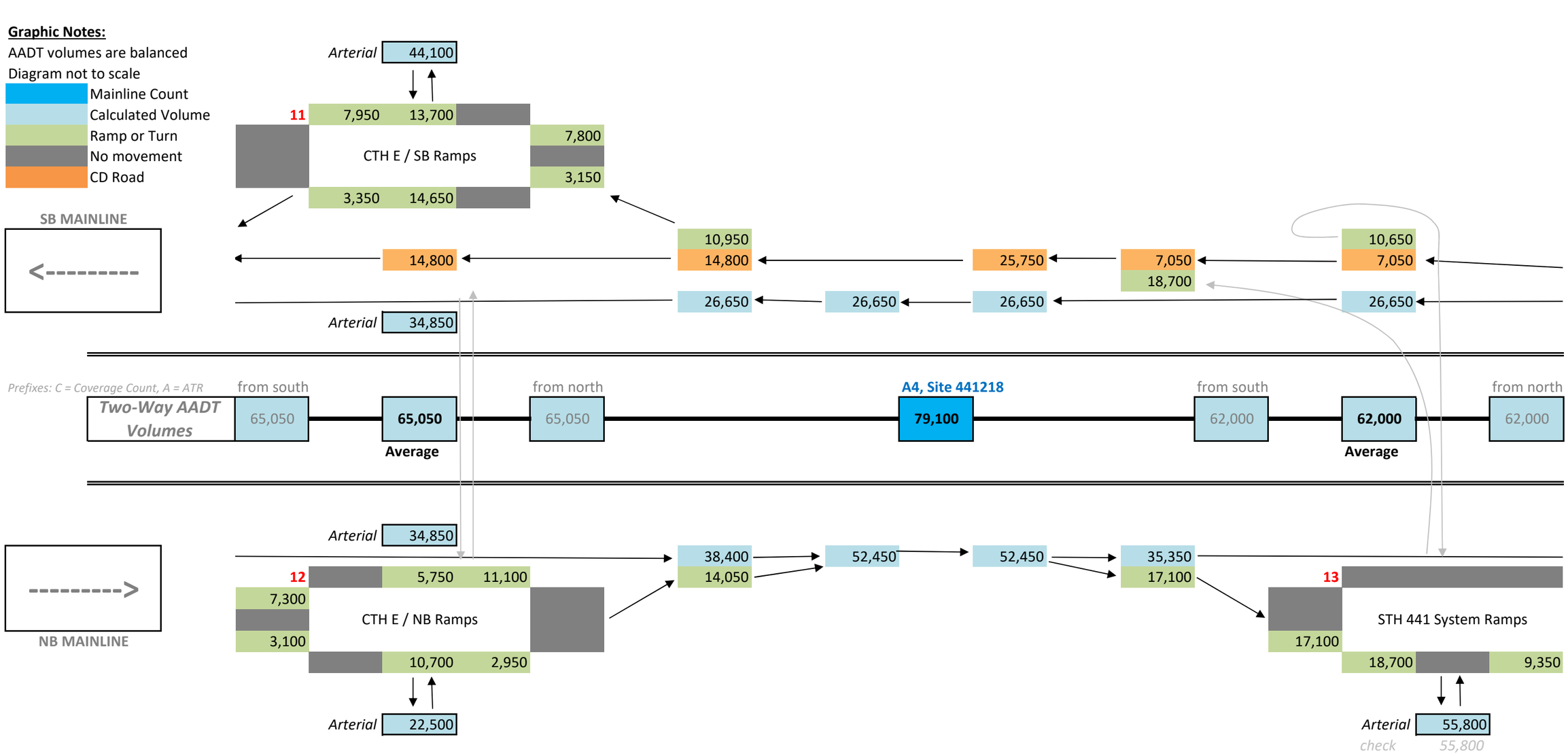
Mainline Count

Calculated Volume

Ramp or Turn

No movement

CD Road



I-41 Daily Traffic

August 2019 (Draft)

Volume Scenario	Build +1 (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

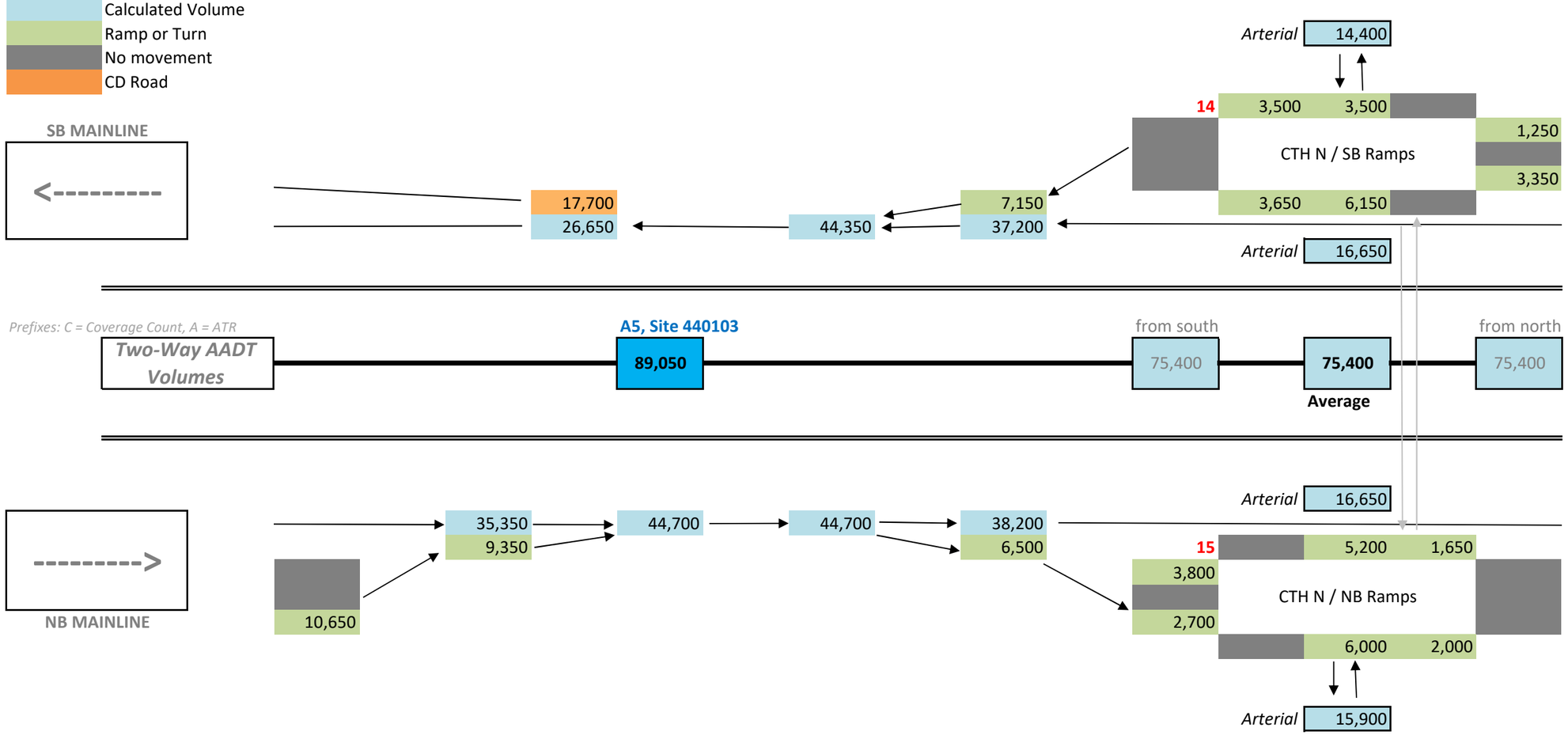
Mainline Count

Calculated Volume

Ramp or Turn

No movement

CD Road



I-41 Daily Traffic

August 2019 (Draft)

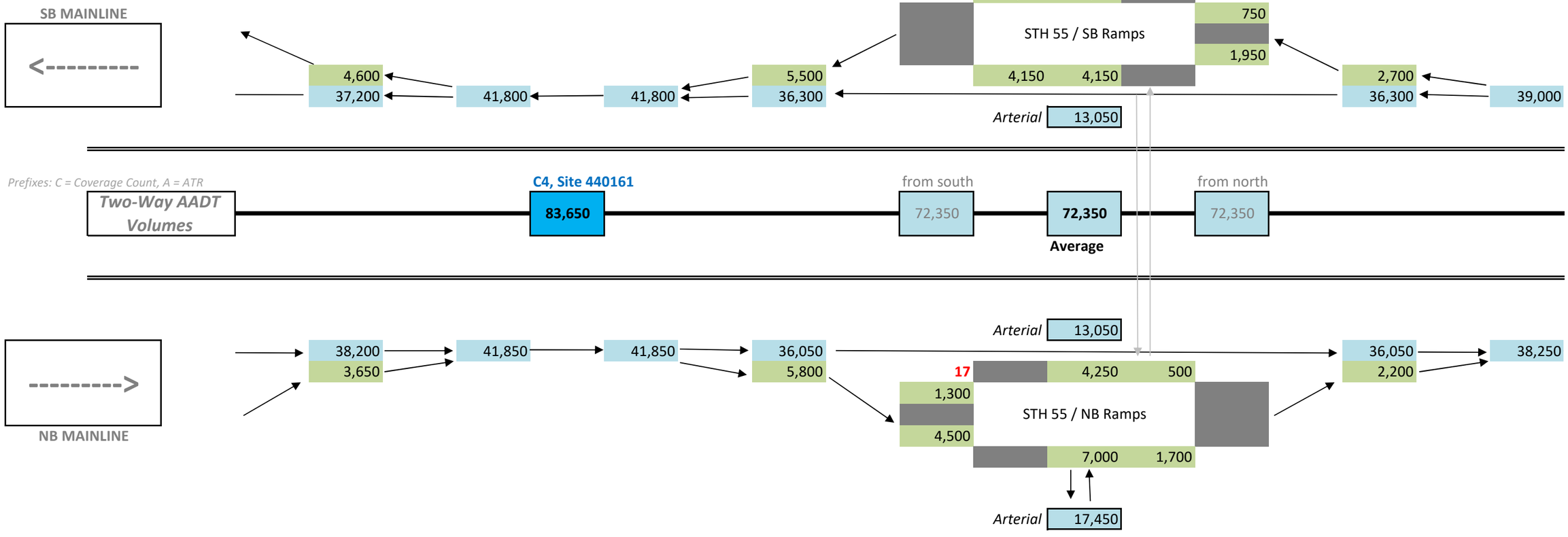
Volume Scenario	Build +1 (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

- Mainline Count
- Calculated Volume
- Ramp or Turn
- No movement
- CD Road



I-41 Daily Traffic

August 2019 (Draft)

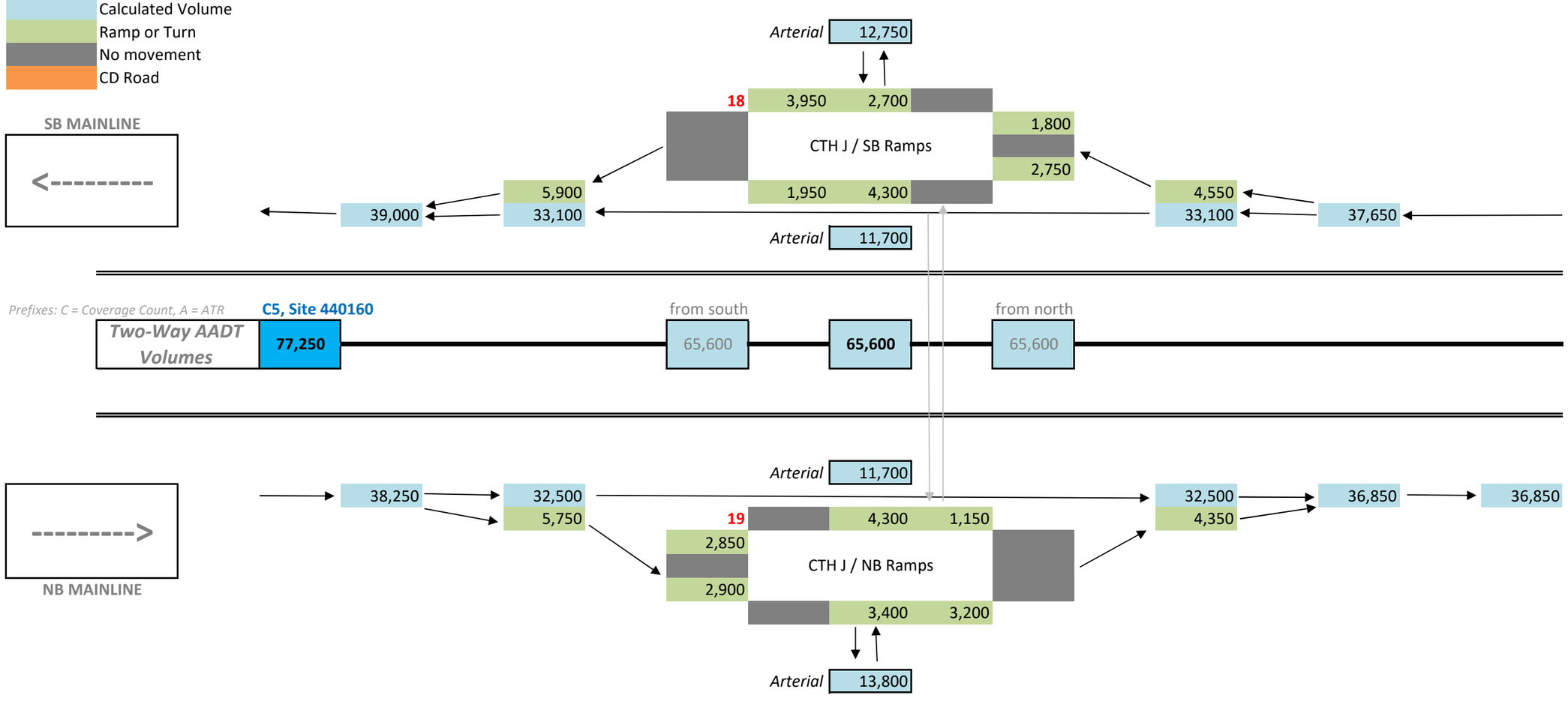
Volume Scenario	Build +1 (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

- Mainline Count
- Calculated Volume
- Ramp or Turn
- No movement
- CD Road



I-41 Daily Traffic

August 2019 (Draft)

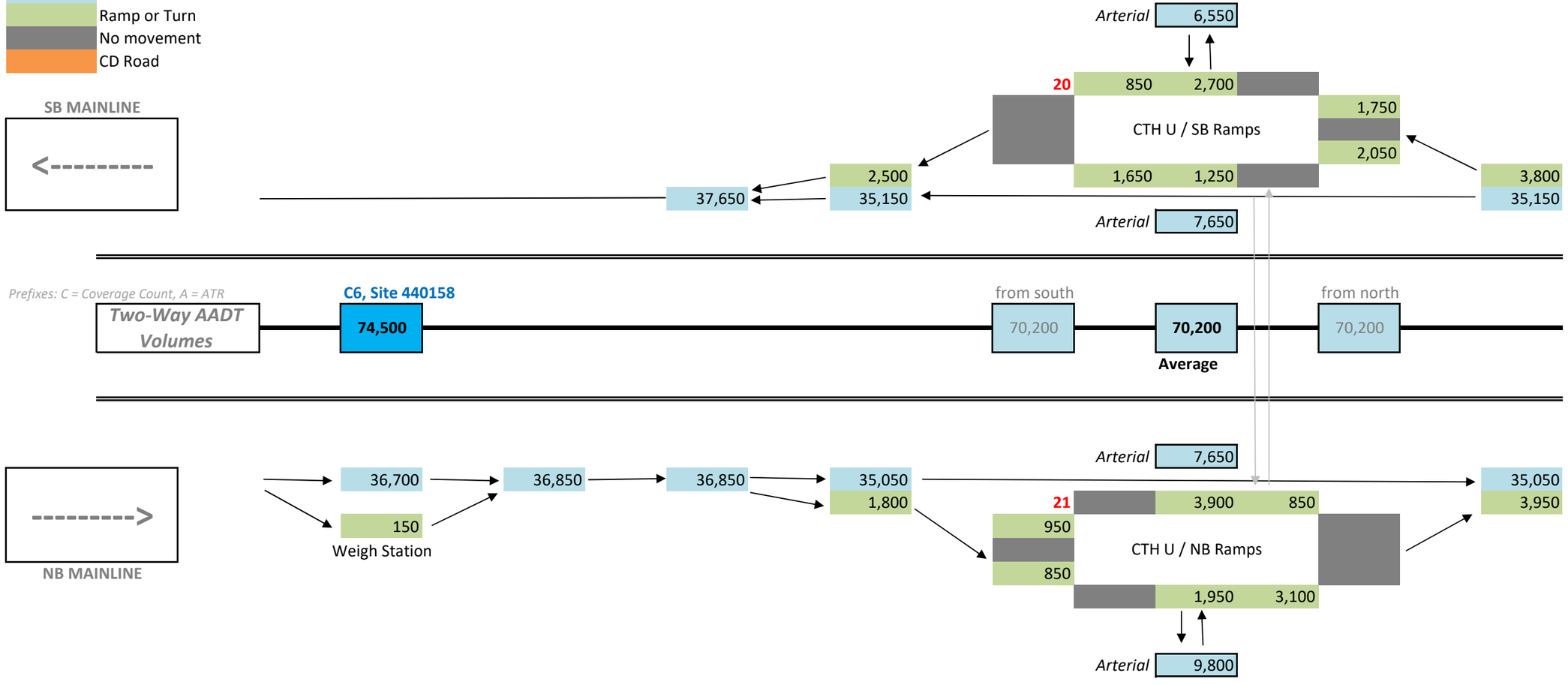
Volume Scenario	Build +1 (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

- Mainline Count
- Calculated Volume
- Ramp or Turn
- No movement
- CD Road



I-41 Daily Traffic

August 2019 (Draft)

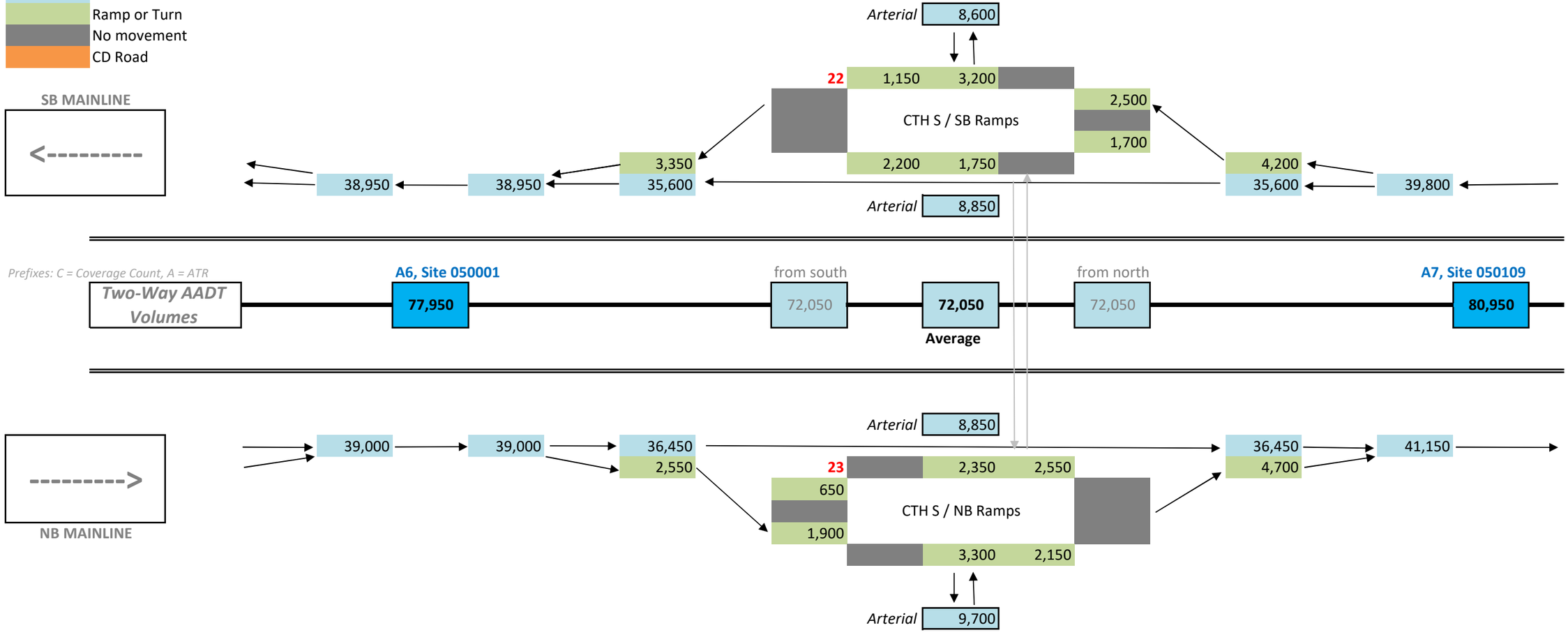
Volume Scenario	Build +1 (2048) AADT Volumes

Graphic Notes:

AADT volumes are balanced

Diagram not to scale

- Mainline Count
- Calculated Volume
- Ramp or Turn
- No movement
- CD Road



ATTACHMENT K
LONG-TERM BUILD ALTERNATIVE HIGH-VOLUME HOUR WORKSHEETS

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

2028 Build Conditions

Segment	1a
Target AADT	79,950

2028 Build Conditions

Segment	1b
Target AADT	73,750

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	142%	135%
0.5%	110%	103%
0.4%	110%	100%
0.6%	76%	51%
1.3%	46%	27%
2.7%	36%	23%
5.0%	33%	19%
7.7%	32%	18%
5.9%	60%	39%
4.9%	94%	71%
5.2%	109%	91%
5.6%	107%	97%
6.0%	104%	97%
6.2%	98%	89%
6.9%	86%	80%
7.9%	73%	71%
9.0%	62%	60%
7.8%	65%	61%
5.0%	85%	78%
3.5%	94%	84%
2.8%	98%	76%
2.2%	108%	71%
1.5%	115%	66%
0.9%	132%	67%

High Volume Hour Calculations

		D		
Hour		**Mon-Fri**	**Saturdays**	**Sundays**
00:00-00:59		425	602	573
01:00-01:59		362	400	371
02:00-02:59		307	337	308
03:00-03:59		448	339	227
04:00-04:59		1,018	472	277
05:00-05:59		2,189	798	500
06:00-06:59		3,958	1,311	740
07:00-07:59		6,170	2,000	1,136
08:00-08:59		4,726	2,843	1,827
09:00-09:59		3,935	3,714	2,813
10:00-10:59		4,137	4,506	3,781
11:00-11:59		4,516	4,842	4,388
12:00-12:59		4,781	4,990	4,617
13:00-13:59		4,989	4,880	4,458
14:00-14:59		5,556	4,761	4,457
15:00-15:59		6,314	4,634	4,496
16:00-16:59		7,220	4,457	4,330
17:00-17:59		6,226	4,056	3,772
18:00-18:59		3,987	3,374	3,100
19:00-19:59		2,781	2,617	2,342
20:00-20:59		2,230	2,188	1,703
21:00-21:59		1,726	1,861	1,230
22:00-22:59		1,234	1,421	810
23:00-23:59		716	944	480
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

6

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	129,651	0	0	129,651
Total Volume	399,750	62,348	52,736	514,835
				25%

High Volume Hour Calculations

		D		
Hour		**Mon-Fri**	**Saturdays**	**Sundays**
00:00-00:59		392	555	529
01:00-01:59		334	369	342
02:00-02:59		283	311	284
03:00-03:59		413	313	209
04:00-04:59		939	435	256
05:00-05:59		2,019	736	461
06:00-06:59		3,651	1,209	682
07:00-07:59		5,691	1,845	1,048
08:00-08:59		4,359	2,623	1,686
09:00-09:59		3,630	3,426	2,595
10:00-10:59		3,817	4,157	3,488
11:00-11:59		4,166	4,467	4,047
12:00-12:59		4,410	4,603	4,259
13:00-13:59		4,602	4,502	4,112
14:00-14:59		5,126	4,392	4,111
15:00-15:59		5,825	4,275	4,147
16:00-16:59		6,660	4,111	3,994
17:00-17:59		5,743	3,742	3,479
18:00-18:59		3,678	3,112	2,860
19:00-19:59		2,565	2,414	2,160
20:00-20:59		2,057	2,018	1,571
21:00-21:59		1,592	1,716	1,135
22:00-22:59		1,138	1,311	747
23:00-23:59		660	870	443
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

6

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	33,302	0	0	33,302
Total Volume	368,750	57,513	48,647	474,910
				7%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.2%	44%	26%
2.8%	34%	22%
5.1%	32%	17%
7.7%	32%	18%
5.7%	60%	39%
5.0%	94%	73%
5.0%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.6%	80%	77%
7.4%	67%	68%
9.1%	58%	58%
8.0%	61%	59%
5.2%	80%	78%
3.7%	92%	88%
3.2%	97%	80%
2.6%	109%	74%
1.6%	116%	69%
0.9%	133%	69%
	Trends from ATR 440105	

2028 Build Conditions

Segment	2a
Target AADT	68,500

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00	00:59	194	259	254
01:00	01:59	285	304	294
02:00	02:59	252	258	227
03:00	03:59	386	279	176
04:00	04:59	844	372	217
05:00	05:59	1,944	666	422
06:00	06:59	3,515	1,117	614
07:00	07:59	5,245	1,672	970
08:00	08:59	3,931	2,364	1,526
09:00	09:59	3,415	3,193	2,486
10:00	10:59	3,424	3,617	3,141
11:00	11:59	3,793	3,884	3,609
12:00	12:59	3,976	3,893	3,740
13:00	13:59	4,211	3,821	3,615
14:00	14:59	4,536	3,625	3,499
15:00	15:59	5,045	3,387	3,417
16:00	16:59	6,233	3,589	3,585
17:00	17:59	5,509	3,349	3,269
18:00	18:59	3,549	2,843	2,766
19:00	19:59	2,524	2,319	2,232
20:00	20:59	2,165	2,096	1,742
21:00	21:59	1,798	1,957	1,337
22:00	22:59	1,126	1,304	774
23:00	23:59	599	797	413
Formulas		AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	31,163	0	0	31,163
Total Volume	342,500	50,965	44,322	437,787
				7%

2028 Build Conditions

Segment	2b
Target AADT	74,250

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00	00:59	210	281	275
01:00	01:59	309	329	319
02:00	02:59	273	280	246
03:00	03:59	419	302	190
04:00	04:59	915	404	235
05:00	05:59	2,107	722	457
06:00	06:59	3,810	1,211	666
07:00	07:59	5,686	1,812	1,052
08:00	08:59	4,262	2,563	1,654
09:00	09:59	3,702	3,461	2,694
10:00	10:59	3,712	3,921	3,405
11:00	11:59	4,111	4,210	3,912
12:00	12:59	4,309	4,220	4,053
13:00	13:59	4,565	4,142	3,918
14:00	14:59	4,917	3,929	3,793
15:00	15:59	5,469	3,671	3,703
16:00	16:59	6,756	3,890	3,886
17:00	17:59	5,971	3,631	3,543
18:00	18:59	3,847	3,081	2,998
19:00	19:59	2,736	2,513	2,419
20:00	20:59	2,346	2,272	1,888
21:00	21:59	1,949	2,121	1,449
22:00	22:59	1,220	1,413	839
23:00	23:59	649	864	448
Formulas		AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	33,779	0	0	33,779
Total Volume	371,250	55,243	48,043	474,536
				7%

2028 Build Conditions

Segment	2c
Target AADT	80,100

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00	00:59	227	303	297
01:00	01:59	333	355	344
02:00	02:59	295	302	265
03:00	03:59	452	326	205
04:00	04:59	987	435	254
05:00	05:59	2,273	779	493
06:00	06:59	4,110	1,306	718
07:00	07:59	6,134	1,955	1,134
08:00	08:59	4,597	2,765	1,784
09:00	09:59	3,993	3,734	2,907
10:00	10:59	4,004	4,230	3,673
11:00	11:59	4,435	4,542	4,221
12:00	12:59	4,649	4,553	4,373
13:00	13:59	4,924	4,468	4,227
14:00	14:59	5,304	4,239	4,092
15:00	15:59	5,899	3,960	3,995
16:00	16:59	7,288	4,197	4,192
17:00	17:59	6,442	3,917	3,822
18:00	18:59	4,150	3,324	3,234
19:00	19:59	2,952	2,711	2,610
20:00	20:59	2,531	2,452	2,037
21:00	21:59	2,103	2,288	1,564
22:00	22:59	1,316	1,524	905
23:00	23:59	701	932	483
Formulas		AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	99,317	0	0	99,317
Total Volume	400,500	59,596	51,828	511,924
				19%

2028 Build Conditions

Segment	2d
Target AADT	72,500

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00	00:59	205	274	268
01:00	01:59	302	321	311
02:00	02:59	267	273	240
03:00	03:59	409	295	186
04:00	04:59	894	394	230
05:00	05:59	2,057	705	446
06:00	06:59	3,720	1,182	650
07:00	07:59	5,552	1,769	1,027
08:00	08:59	4,161	2,502	1,615
09:00	09:59	3,614	3,380	2,631
10:00	10:59	3,624	3,828	3,325
11:00	11:59	4,015	4,111	3,820
12:00	12:59	4,208	4,121	3,958
13:00	13:59	4,457	4,044	3,826
14:00	14:59	4,801	3,837	3,703
15:00	15:59	5,340	3,585	3,616
16:00	16:59	6,597	3,799	3,795
17:00	17:59	5,831	3,545	3,459
18:00	18:59	3,756	3,009	2,927
19:00	19:59	2,671	2,454	2,362
20:00	20:59	2,291	2,219	1,844
21:00	21:59	1,903	2,071	1,415
22:00	22:59	1,191	1,380	819
23:00	23:59	634	843	437
Formulas		AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	32,983	0	0	32,983
Total Volume	362,500	53,941	46,911	463,352
				7%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.4%	44%	26%
3.0%	34%	22%
5.5%	32%	17%
8.3%	32%	18%
6.1%	60%	39%
5.0%	94%	73%
5.1%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.7%	80%	77%
7.8%	67%	68%
8.9%	58%	58%
7.6%	61%	59%
4.8%	80%	78%
3.3%	92%	88%
2.7%	97%	80%
2.0%	109%	74%
1.5%	116%	69%
0.9%	133%	69%

2028 Build Conditions

Segment	3a
Target AADT	63,100

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	335	448	439	
01:00-01:59	277	295	285	
02:00-02:59	251	257	226	
03:00-03:59	405	292	184	
04:00-04:59	888	391	228	
05:00-05:59	1,915	656	415	
06:00-06:59	3,466	1,101	605	
07:00-07:59	5,239	1,670	969	
08:00-08:59	3,866	2,325	1,501	
09:00-09:59	3,143	2,939	2,288	
10:00-10:59	3,226	3,408	2,959	
11:00-11:59	3,498	3,582	3,329	
12:00-12:59	3,688	3,612	3,469	
13:00-13:59	3,831	3,476	3,288	
14:00-14:59	4,248	3,395	3,277	
15:00-15:59	4,907	3,294	3,323	
16:00-16:59	5,585	3,216	3,213	
17:00-17:59	4,799	2,918	2,847	
18:00-18:59	3,011	2,412	2,346	
19:00-19:59	2,077	1,908	1,837	
20:00-20:59	1,680	1,627	1,352	
21:00-21:59	1,292	1,405	960	
22:00-22:59	922	1,067	634	
23:00-23:59	550	732	380	
Formulas	*AADT x A*	*B X D*	*C X D*	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	315,500	46,428	40,355	402,283
				0%

2028 Build Conditions

Segment	3b
Target AADT	68,050

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	362	484	473	
01:00-01:59	298	318	308	
02:00-02:59	271	277	244	
03:00-03:59	437	315	199	
04:00-04:59	958	422	246	
05:00-05:59	2,065	708	448	
06:00-06:59	3,738	1,188	653	
07:00-07:59	5,650	1,801	1,045	
08:00-08:59	4,170	2,508	1,618	
09:00-09:59	3,390	3,170	2,467	
10:00-10:59	3,479	3,675	3,192	
11:00-11:59	3,773	3,863	3,590	
12:00-12:59	3,977	3,895	3,741	
13:00-13:59	4,131	3,748	3,546	
14:00-14:59	4,582	3,661	3,534	
15:00-15:59	5,292	3,552	3,584	
16:00-16:59	6,023	3,468	3,465	
17:00-17:59	5,176	3,147	3,071	
18:00-18:59	3,247	2,601	2,530	
19:00-19:59	2,240	2,058	1,981	
20:00-20:59	1,812	1,755	1,458	
21:00-21:59	1,393	1,516	1,036	
22:00-22:59	994	1,151	683	
23:00-23:59	594	789	409	
Formulas	*AADT x A*	*B X D*	*C X D*	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	30,113	0	0	30,113
Total Volume	340,250	50,070	43,521	433,841
				7%

2028 Build Conditions

Segment	3c
Target AADT	73,400

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	390	522	511	
01:00-01:59	322	343	332	
02:00-02:59	292	299	263	
03:00-03:59	471	340	214	
04:00-04:59	1,033	455	266	
05:00-05:59	2,228	764	483	
06:00-06:59	4,032	1,281	704	
07:00-07:59	6,094	1,942	1,127	
08:00-08:59	4,497	2,705	1,745	
09:00-09:59	3,656	3,419	2,661	
10:00-10:59	3,753	3,964	3,443	
11:00-11:59	4,069	4,167	3,872	
12:00-12:59	4,290	4,201	4,035	
13:00-13:59	4,456	4,043	3,825	
14:00-14:59	4,942	3,949	3,812	
15:00-15:59	5,708	3,832	3,865	
16:00-16:59	6,496	3,741	3,737	
17:00-17:59	5,582	3,394	3,312	
18:00-18:59	3,502	2,805	2,729	
19:00-19:59	2,416	2,220	2,137	
20:00-20:59	1,954	1,893	1,573	
21:00-21:59	1,503	1,635	1,117	
22:00-22:59	1,072	1,242	737	
23:00-23:59	640	852	442	
Formulas	*AADT x A*	*B X D*	*C X D*	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	62,951	0	0	62,951
Total Volume	367,000	54,006	46,942	467,949
				13%

2028 Build Conditions

Segment	3d
Target AADT	66,250

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	352	471	461	
01:00-01:59	290	309	300	
02:00-02:59	264	270	237	
03:00-03:59	425	307	193	
04:00-04:59	932	411	240	
05:00-05:59	2,011	689	436	
06:00-06:59	3,640	1,156	636	
07:00-07:59	5,500	1,753	1,017	
08:00-08:59	4,059	2,441	1,575	
09:00-09:59	3,300	3,086	2,402	
10:00-10:59	3,387	3,578	3,107	
11:00-11:59	3,673	3,761	3,495	
12:00-12:59	3,872	3,792	3,642	
13:00-13:59	4,022	3,649	3,452	
14:00-14:59	4,460	3,565	3,441	
15:00-15:59	5,152	3,459	3,489	
16:00-16:59	5,863	3,376	3,373	
17:00-17:59	5,039	3,064	2,990	
18:00-18:59	3,161	2,532	2,463	
19:00-19:59	2,181	2,003	1,929	
20:00-20:59	1,764	1,708	1,419	
21:00-21:59	1,356	1,476	1,008	
22:00-22:59	968	1,121	665	
23:00-23:59	578	769	399	
Formulas	*AADT x A*	*B X D*	*C X D*	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (8-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	331,250	48,746	42,370	422,365
				0%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	136%	133%
0.4%	107%	103%
0.4%	103%	90%
0.6%	74%	47%
1.3%	44%	26%
2.8%	35%	22%
5.2%	32%	18%
7.8%	34%	20%
5.9%	63%	40%
5.0%	98%	76%
5.3%	111%	95%
5.7%	108%	99%
6.0%	104%	99%
6.2%	97%	92%
6.8%	87%	83%
7.8%	74%	73%
8.8%	63%	63%
7.7%	65%	62%
5.0%	84%	77%
3.5%	93%	84%
2.8%	97%	77%
2.1%	109%	71%
1.4%	118%	67%
0.8%	134%	68%

2028 Build Conditions

Segment	4a
Target AADT	58,700

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	294	400	391	
01:00-01:59	241	259	247	
02:00-02:59	213	219	192	
03:00-03:59	348	257	164	
04:00-04:59	791	351	206	
05:00-05:59	1,662	576	370	
06:00-06:59	3,024	979	544	
07:00-07:59	4,552	1,544	892	
08:00-08:59	3,485	2,190	1,406	
09:00-09:59	2,934	2,872	2,222	
10:00-10:59	3,084	3,416	2,944	
11:00-11:59	3,363	3,633	3,337	
12:00-12:59	3,541	3,684	3,522	
13:00-13:59	3,668	3,553	3,361	
14:00-14:59	4,005	3,470	3,342	
15:00-15:59	4,566	3,373	3,354	
16:00-16:59	5,165	3,261	3,229	
17:00-17:59	4,545	2,948	2,814	
18:00-18:59	2,952	2,465	2,279	
19:00-19:59	2,067	1,929	1,736	
20:00-20:59	1,630	1,584	1,258	
21:00-21:59	1,237	1,350	879	
22:00-22:59	837	985	561	
23:00-23:59	494	660	338	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	293,500	45,956	39,589	379,045
				0%

2028 Build Conditions

Segment	4b
Target AADT	64,950

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	325	443	433	
01:00-01:59	267	287	274	
02:00-02:59	236	242	213	
03:00-03:59	385	284	182	
04:00-04:59	876	388	228	
05:00-05:59	1,839	637	409	
06:00-06:59	3,346	1,083	601	
07:00-07:59	5,037	1,709	987	
08:00-08:59	3,856	2,423	1,555	
09:00-09:59	3,246	3,177	2,459	
10:00-10:59	3,412	3,780	3,258	
11:00-11:59	3,721	4,020	3,692	
12:00-12:59	3,918	4,076	3,897	
13:00-13:59	4,059	3,931	3,719	
14:00-14:59	4,432	3,840	3,698	
15:00-15:59	5,052	3,732	3,711	
16:00-16:59	5,715	3,608	3,573	
17:00-17:59	5,029	3,261	3,114	
18:00-18:59	3,266	2,727	2,522	
19:00-19:59	2,287	2,134	1,920	
20:00-20:59	1,803	1,753	1,392	
21:00-21:59	1,369	1,493	973	
22:00-22:59	926	1,090	621	
23:00-23:59	547	731	374	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	324,750	50,849	43,804	419,403
				0%

2028 Build Conditions

Segment	4c
Target AADT	71,100

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	356	485	474	
01:00-01:59	292	314	300	
02:00-02:59	258	265	233	
03:00-03:59	421	311	199	
04:00-04:59	959	425	249	
05:00-05:59	2,013	697	448	
06:00-06:59	3,663	1,186	658	
07:00-07:59	5,514	1,870	1,080	
08:00-08:59	4,221	2,652	1,703	
09:00-09:59	3,553	3,478	2,692	
10:00-10:59	3,736	4,138	3,566	
11:00-11:59	4,073	4,400	4,042	
12:00-12:59	4,289	4,462	4,266	
13:00-13:59	4,443	4,303	4,071	
14:00-14:59	4,851	4,204	4,048	
15:00-15:59	5,530	4,085	4,063	
16:00-16:59	6,257	3,949	3,912	
17:00-17:59	5,506	3,570	3,408	
18:00-18:59	3,575	2,986	2,761	
19:00-19:59	2,503	2,336	2,102	
20:00-20:59	1,974	1,919	1,524	
21:00-21:59	1,498	1,635	1,065	
22:00-22:59	1,014	1,193	680	
23:00-23:59	598	800	409	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	31,283	0	0	31,283
Total Volume	355,500	55,664	47,952	459,116
				7%

2028 Build Conditions

Segment	4d
Target AADT	62,600

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	313	427	417	
01:00-01:59	257	277	264	
02:00-02:59	227	233	205	
03:00-03:59	371	274	175	
04:00-04:59	844	374	219	
05:00-05:59	1,773	614	394	
06:00-06:59	3,225	1,044	580	
07:00-07:59	4,855	1,647	951	
08:00-08:59	3,717	2,335	1,499	
09:00-09:59	3,129	3,062	2,370	
10:00-10:59	3,289	3,643	3,140	
11:00-11:59	3,586	3,874	3,558	
12:00-12:59	3,777	3,929	3,756	
13:00-13:59	3,912	3,789	3,584	
14:00-14:59	4,271	3,701	3,564	
15:00-15:59	4,869	3,597	3,577	
16:00-16:59	5,509	3,477	3,444	
17:00-17:59	4,847	3,143	3,001	
18:00-18:59	3,148	2,629	2,431	
19:00-19:59	2,204	2,057	1,851	
20:00-20:59	1,738	1,690	1,342	
21:00-21:59	1,319	1,439	937	
22:00-22:59	893	1,050	598	
23:00-23:59	527	704	360	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	313,000	49,009	42,219	404,228
				0%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
8.0%	34%	20%
5.9%	65%	42%
5.0%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.5%	105%	99%
5.9%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.1%	60%	58%
8.2%	63%	57%
5.3%	84%	75%
3.7%	96%	85%
3.0%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

*Trends from ATR 441218

2028 Build Conditions

Segment	5a
Target AADT	56,150

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	128	190	199
01:00-01:59	182	229	228
02:00-02:59	207	226	215
03:00-03:59	330	248	167
04:00-04:59	719	322	194
05:00-05:59	1,710	591	368
06:00-06:59	3,171	935	513
07:00-07:59	4,488	1,517	887
08:00-08:59	3,314	2,150	1,392
09:00-09:59	2,780	2,710	2,105
10:00-10:59	2,771	3,090	2,648
11:00-11:59	2,971	3,216	2,922
12:00-12:59	3,097	3,266	3,054
13:00-13:59	3,297	3,239	2,975
14:00-14:59	3,608	3,116	2,956
15:00-15:59	4,136	2,998	2,895
16:00-16:59	5,134	3,106	2,993
17:00-17:59	4,627	2,918	2,637
18:00-18:59	2,982	2,492	2,230
19:00-19:59	2,051	1,963	1,739
20:00-20:59	1,708	1,674	1,279
21:00-21:59	1,458	1,659	995
22:00-22:59	851	1,075	544
23:00-23:59	430	621	293
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	280,750	43,551	36,428	360,728
				0%

2028 Build Conditions

Segment	5b
Target AADT	64,700

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	148	219	229
01:00-01:59	210	264	263
02:00-02:59	238	260	247
03:00-03:59	380	285	192
04:00-04:59	828	372	223
05:00-05:59	1,970	681	424
06:00-06:59	3,654	1,077	592
07:00-07:59	5,171	1,748	1,023
08:00-08:59	3,819	2,477	1,604
09:00-09:59	3,203	3,123	2,425
10:00-10:59	3,193	3,560	3,051
11:00-11:59	3,424	3,706	3,367
12:00-12:59	3,569	3,763	3,519
13:00-13:59	3,799	3,732	3,428
14:00-14:59	4,158	3,591	3,406
15:00-15:59	4,766	3,455	3,336
16:00-16:59	5,915	3,579	3,448
17:00-17:59	5,332	3,363	3,039
18:00-18:59	3,436	2,872	2,570
19:00-19:59	2,363	2,262	2,004
20:00-20:59	1,968	1,929	1,474
21:00-21:59	1,680	1,912	1,147
22:00-22:59	981	1,238	627
23:00-23:59	496	716	338
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	323,500	50,182	41,974	415,656
				0%

2028 Build Conditions

Segment	5c
Target AADT	75,200

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	172	254	266
01:00-01:59	244	307	306
02:00-02:59	277	302	287
03:00-03:59	442	332	224
04:00-04:59	963	432	260
05:00-05:59	2,290	792	493
06:00-06:59	4,247	1,252	688
07:00-07:59	6,011	2,032	1,189
08:00-08:59	4,438	2,879	1,864
09:00-09:59	3,723	3,629	2,819
10:00-10:59	3,711	4,138	3,546
11:00-11:59	3,979	4,307	3,913
12:00-12:59	4,148	4,374	4,090
13:00-13:59	4,415	4,338	3,984
14:00-14:59	4,833	4,174	3,959
15:00-15:59	5,539	4,015	3,877
16:00-16:59	6,875	4,159	4,008
17:00-17:59	6,197	3,908	3,532
18:00-18:59	3,994	3,338	2,987
19:00-19:59	2,746	2,629	2,329
20:00-20:59	2,287	2,242	1,713
21:00-21:59	1,953	2,222	1,333
22:00-22:59	1,140	1,439	728
23:00-23:59	576	832	393
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	95,415	0	0	95,415
Total Volume	376,000	58,326	48,786	483,112
				20%

2028 Build Conditions

Segment	5d
Target AADT	69,450

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	159	235	246
01:00-01:59	225	283	282
02:00-02:59	256	279	265
03:00-03:59	408	306	207
04:00-04:59	889	399	240
05:00-05:59	2,115	731	456
06:00-06:59	3,922	1,156	635
07:00-07:59	5,551	1,876	1,098
08:00-08:59	4,099	2,659	1,722
09:00-09:59	3,439	3,352	2,603
10:00-10:59	3,428	3,822	3,275
11:00-11:59	3,675	3,978	3,614
12:00-12:59	3,831	4,039	3,778
13:00-13:59	4,078	4,006	3,679
14:00-14:59	4,463	3,855	3,656
15:00-15:59	5,115	3,708	3,580
16:00-16:59	6,349	3,841	3,702
17:00-17:59	5,723	3,609	3,262
18:00-18:59	3,688	3,082	2,758
19:00-19:59	2,536	2,428	2,151
20:00-20:59	2,112	2,070	1,582
21:00-21:59	1,803	2,052	1,231
22:00-22:59	1,053	1,329	673
23:00-23:59	532	768	363
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	31,747	0	0	31,747
Total Volume	347,250	53,866	45,056	446,172
				7%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

Trends from ATR 441218

2028 Build Conditions

Segment	6a
Target AADT	63,000

High Volume Hour Calculations

Hour	D Mon-Fri	Saturdays	Sundays
00:00-00:59	146	217	226
01:00-01:59	196	247	246
02:00-02:59	220	240	228
03:00-03:59	341	256	173
04:00-04:59	817	367	220
05:00-05:59	1,929	667	416
06:00-06:59	3,535	1,042	572
07:00-07:59	5,007	1,692	990
08:00-08:59	3,633	2,357	1,526
09:00-09:59	3,097	3,019	2,345
10:00-10:59	3,114	3,471	2,975
11:00-11:59	3,325	3,599	3,270
12:00-12:59	3,516	3,706	3,466
13:00-13:59	3,637	3,573	3,282
14:00-14:59	4,046	3,494	3,314
15:00-15:59	4,680	3,393	3,276
16:00-16:59	5,688	3,441	3,316
17:00-17:59	5,282	3,331	3,010
18:00-18:59	3,402	2,843	2,544
19:00-19:59	2,336	2,236	1,980
20:00-20:59	1,968	1,929	1,474
21:00-21:59	1,651	1,879	1,127
22:00-22:59	956	1,208	611
23:00-23:59	478	689	326
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	315,000	48,897	40,914	404,812
				0%

2028 Build Conditions

Segment	6b
Target AADT	70,250

High Volume Hour Calculations

Hour	D Mon-Fri	Saturdays	Sundays
00:00-00:59	163	241	253
01:00-01:59	219	275	275
02:00-02:59	245	268	254
03:00-03:59	380	285	192
04:00-04:59	911	409	246
05:00-05:59	2,151	744	463
06:00-06:59	3,942	1,162	638
07:00-07:59	5,583	1,887	1,104
08:00-08:59	4,051	2,628	1,702
09:00-09:59	3,453	3,366	2,614
10:00-10:59	3,472	3,871	3,317
11:00-11:59	3,708	4,014	3,646
12:00-12:59	3,920	4,133	3,865
13:00-13:59	4,056	3,985	3,660
14:00-14:59	4,511	3,896	3,696
15:00-15:59	5,219	3,783	3,653
16:00-16:59	6,343	3,837	3,698
17:00-17:59	5,890	3,714	3,357
18:00-18:59	3,794	3,171	2,837
19:00-19:59	2,604	2,493	2,208
20:00-20:59	2,194	2,151	1,644
21:00-21:59	1,841	2,096	1,257
22:00-22:59	1,066	1,347	682
23:00-23:59	532	769	363
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	31,714	0	0	31,714
Total Volume	351,250	54,525	45,623	451,397
				7%

2028 Build Conditions

Segment	6c
Target AADT	77,550

High Volume Hour Calculations

Hour	D Mon-Fri	Saturdays	Sundays
00:00-00:59	180	267	279
01:00-01:59	241	304	303
02:00-02:59	270	295	281
03:00-03:59	420	315	212
04:00-04:59	1,006	451	271
05:00-05:59	2,374	821	512
06:00-06:59	4,352	1,283	705
07:00-07:59	6,163	2,083	1,219
08:00-08:59	4,472	2,901	1,878
09:00-09:59	3,812	3,716	2,886
10:00-10:59	3,833	4,273	3,662
11:00-11:59	4,093	4,431	4,025
12:00-12:59	4,328	4,563	4,267
13:00-13:59	4,477	4,399	4,040
14:00-14:59	4,980	4,301	4,080
15:00-15:59	5,761	4,176	4,033
16:00-16:59	7,002	4,236	4,082
17:00-17:59	6,502	4,100	3,705
18:00-18:59	4,188	3,500	3,132
19:00-19:59	2,875	2,752	2,438
20:00-20:59	2,422	2,374	1,814
21:00-21:59	2,033	2,313	1,387
22:00-22:59	1,177	1,487	752
23:00-23:59	588	849	401
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	98,333	0	0	98,333
Total Volume	387,750	60,190	50,364	498,304
				20%

2028 Build Conditions

Segment	6d
Target AADT	57,500

High Volume Hour Calculations

Hour	D Mon-Fri	Saturdays	Sundays
00:00-00:59	133	198	207
01:00-01:59	179	225	225
02:00-02:59	200	219	208
03:00-03:59	311	234	157
04:00-04:59	746	335	201
05:00-05:59	1,760	609	379
06:00-06:59	3,227	951	522
07:00-07:59	4,570	1,545	904
08:00-08:59	3,316	2,151	1,393
09:00-09:59	2,827	2,755	2,140
10:00-10:59	2,842	3,168	2,715
11:00-11:59	3,035	3,285	2,984
12:00-12:59	3,209	3,383	3,164
13:00-13:59	3,320	3,261	2,995
14:00-14:59	3,693	3,189	3,025
15:00-15:59	4,272	3,097	2,990
16:00-16:59	5,192	3,141	3,026
17:00-17:59	4,821	3,040	2,747
18:00-18:59	3,105	2,595	2,322
19:00-19:59	2,132	2,041	1,807
20:00-20:59	1,796	1,760	1,345
21:00-21:59	1,507	1,715	1,029
22:00-22:59	873	1,102	558
23:00-23:59	436	629	297
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	287,500	44,629	37,342	369,471
				0%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

2028 Build Conditions

Segment	7a
Target AADT	49,650

2028 Build Conditions

Segment	7b
Target AADT	60,350

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	148%	155%
0.4%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
5.0%	97%	76%
5.1%	111%	96%
5.6%	108%	98%
5.8%	105%	99%
6.0%	98%	90%
6.6%	86%	82%
7.8%	72%	70%
9.0%	60%	58%
8.0%	63%	57%
5.0%	84%	75%
3.4%	96%	85%
2.8%	98%	75%
2.1%	114%	68%
1.4%	126%	64%
0.9%	144%	68%

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	240	355	371
01:00-01:59	185	233	232
02:00-02:59	187	205	195
03:00-03:59	281	211	142
04:00-04:59	658	295	178
05:00-05:59	1,478	511	318
06:00-06:59	2,765	815	448
07:00-07:59	3,908	1,321	773
08:00-08:59	2,886	1,872	1,212
09:00-09:59	2,471	2,409	1,871
10:00-10:59	2,555	2,849	2,442
11:00-11:59	2,767	2,995	2,720
12:00-12:59	2,900	3,057	2,859
13:00-13:59	2,990	2,937	2,698
14:00-14:59	3,299	2,849	2,702
15:00-15:59	3,893	2,822	2,725
16:00-16:59	4,479	2,710	2,611
17:00-17:59	3,953	2,493	2,253
18:00-18:59	2,486	2,078	1,859
19:00-19:59	1,698	1,625	1,439
20:00-20:59	1,384	1,356	1,037
21:00-21:59	1,056	1,201	720
22:00-22:59	710	897	454
23:00-23:59	423	611	288
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	292	432	451
01:00-01:59	225	283	282
02:00-02:59	228	249	236
03:00-03:59	342	256	173
04:00-04:59	800	359	216
05:00-05:59	1,796	621	387
06:00-06:59	3,360	991	544
07:00-07:59	4,750	1,606	939
08:00-08:59	3,508	2,276	1,474
09:00-09:59	3,004	2,928	2,274
10:00-10:59	3,106	3,463	2,968
11:00-11:59	3,363	3,640	3,307
12:00-12:59	3,525	3,716	3,475
13:00-13:59	3,634	3,570	3,279
14:00-14:59	4,010	3,463	3,284
15:00-15:59	4,731	3,430	3,312
16:00-16:59	5,444	3,293	3,174
17:00-17:59	4,805	3,031	2,739
18:00-18:59	3,022	2,525	2,260
19:00-19:59	2,064	1,975	1,750
20:00-20:59	1,682	1,649	1,260
21:00-21:59	1,283	1,460	876
22:00-22:59	863	1,090	552
23:00-23:59	514	743	351
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	248,250	38,706	32,547	319,503
				0%

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	301,750	47,048	39,561	388,359
				0%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

2028 Build Conditions

Segment	8a
Target AADT	47,450

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	245	371	396
01:00-01:59	184	243	256
02:00-02:59	194	223	217
03:00-03:59	280	214	154
04:00-04:59	638	298	181
05:00-05:59	1,594	545	343
06:00-06:59	2,902	832	478
07:00-07:59	3,939	1,259	732
08:00-08:59	2,731	1,717	1,120
09:00-09:59	2,343	2,192	1,710
10:00-10:59	2,371	2,565	2,154
11:00-11:59	2,543	2,721	2,438
12:00-12:59	2,668	2,746	2,543
13:00-13:59	2,775	2,651	2,446
14:00-14:59	3,101	2,582	2,471
15:00-15:59	3,640	2,574	2,516
16:00-16:59	4,328	2,497	2,448
17:00-17:59	3,807	2,337	2,177
18:00-18:59	2,272	1,949	1,803
19:00-19:59	1,521	1,518	1,395
20:00-20:59	1,250	1,297	1,041
21:00-21:59	985	1,190	744
22:00-22:59	703	941	477
23:00-23:59	437	638	326
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	237,250	36,099	30,566	303,915
				0%

2028 Build Conditions

Segment	8b
Target AADT	54,750

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	283	428	457
01:00-01:59	213	280	296
02:00-02:59	224	257	250
03:00-03:59	323	247	177
04:00-04:59	736	343	209
05:00-05:59	1,839	628	396
06:00-06:59	3,349	960	551
07:00-07:59	4,545	1,453	845
08:00-08:59	3,151	1,981	1,292
09:00-09:59	2,704	2,529	1,973
10:00-10:59	2,736	2,960	2,486
11:00-11:59	2,934	3,139	2,813
12:00-12:59	3,079	3,169	2,935
13:00-13:59	3,202	3,059	2,822
14:00-14:59	3,578	2,980	2,851
15:00-15:59	4,200	2,970	2,903
16:00-16:59	4,994	2,881	2,824
17:00-17:59	4,392	2,696	2,512
18:00-18:59	2,621	2,249	2,080
19:00-19:59	1,755	1,751	1,609
20:00-20:59	1,443	1,497	1,202
21:00-21:59	1,136	1,373	859
22:00-22:59	811	1,086	551
23:00-23:59	505	736	376
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	273,750	41,653	35,268	350,672
				0%

2028 Build Conditions

Segment	8c
Target AADT	68,350

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	353	534	571
01:00-01:59	265	349	369
02:00-02:59	280	321	312
03:00-03:59	403	308	221
04:00-04:59	919	429	261
05:00-05:59	2,296	784	494
06:00-06:59	4,181	1,199	688
07:00-07:59	5,673	1,814	1,055
08:00-08:59	3,933	2,473	1,613
09:00-09:59	3,376	3,158	2,463
10:00-10:59	3,415	3,695	3,103
11:00-11:59	3,663	3,919	3,512
12:00-12:59	3,843	3,956	3,664
13:00-13:59	3,997	3,819	3,523
14:00-14:59	4,466	3,720	3,559
15:00-15:59	5,243	3,707	3,624
16:00-16:59	6,234	3,597	3,526
17:00-17:59	5,483	3,366	3,136
18:00-18:59	3,272	2,807	2,596
19:00-19:59	2,191	2,186	2,009
20:00-20:59	1,801	1,868	1,500
21:00-21:59	1,419	1,714	1,072
22:00-22:59	1,013	1,356	687
23:00-23:59	630	919	469
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	31,171	0	0	31,171
Total Volume	341,750	52,000	44,029	437,779
				7%

2028 Build Conditions

Segment	8d
Target AADT	63,200

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	326	494	528
01:00-01:59	245	323	341
02:00-02:59	259	297	288
03:00-03:59	373	285	204
04:00-04:59	850	396	241
05:00-05:59	2,123	725	457
06:00-06:59	3,866	1,108	637
07:00-07:59	5,246	1,677	975
08:00-08:59	3,637	2,287	1,491
09:00-09:59	3,121	2,920	2,277
10:00-10:59	3,158	3,417	2,870
11:00-11:59	3,387	3,624	3,248
12:00-12:59	3,554	3,658	3,388
13:00-13:59	3,696	3,531	3,257
14:00-14:59	4,130	3,440	3,291
15:00-15:59	4,848	3,428	3,351
16:00-16:59	5,764	3,326	3,260
17:00-17:59	5,070	3,113	2,899
18:00-18:59	3,026	2,596	2,401
19:00-19:59	2,026	2,022	1,858
20:00-20:59	1,665	1,728	1,387
21:00-21:59	1,312	1,585	992
22:00-22:59	937	1,254	636
23:00-23:59	582	850	434
Formulas	AADT x A	B X D	C X D

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	316,000	48,082	40,712	404,794
				0%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.2%	47%	28%
3.4%	34%	22%
6.4%	29%	16%
8.4%	32%	19%
5.9%	63%	41%
4.9%	94%	73%
4.8%	108%	91%
5.3%	107%	96%
5.4%	103%	95%
5.4%	96%	88%
6.2%	83%	80%
7.3%	71%	69%
9.2%	58%	57%
8.4%	61%	57%
4.9%	86%	79%
3.3%	100%	92%
3.0%	104%	83%
2.4%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

Trends from ATR 440103

2028 Build Conditions

Segment	9a
Target AADT	57,800

High Volume Hour Calculations

Hour	D Mon-Fri	Saturdays	Sundays
00:00-00:59	166	251	269
01:00-01:59	226	298	315
02:00-02:59	217	249	242
03:00-03:59	339	259	186
04:00-04:59	712	332	202
05:00-05:59	1,987	679	428
06:00-06:59	3,680	1,055	606
07:00-07:59	4,879	1,560	907
08:00-08:59	3,391	2,132	1,390
09:00-09:59	2,838	2,654	2,070
10:00-10:59	2,801	3,031	2,546
11:00-11:59	3,038	3,251	2,913
12:00-12:59	3,093	3,183	2,948
13:00-13:59	3,134	2,994	2,762
14:00-14:59	3,580	2,982	2,853
15:00-15:59	4,231	2,992	2,924
16:00-16:59	5,340	3,081	3,020
17:00-17:59	4,868	2,989	2,784
18:00-18:59	2,842	2,438	2,255
19:00-19:59	1,932	1,928	1,772
20:00-20:59	1,712	1,776	1,426
21:00-21:59	1,408	1,701	1,064
22:00-22:59	880	1,179	598
23:00-23:59	506	739	377
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	289,000	43,732	36,857	369,589
				0%

2028 Build Conditions

Segment	9b
Target AADT	60,200

High Volume Hour Calculations

Hour	D Mon-Fri	Saturdays	Sundays
00:00-00:59	173	262	280
01:00-01:59	236	310	328
02:00-02:59	226	259	252
03:00-03:59	353	269	194
04:00-04:59	741	346	210
05:00-05:59	2,069	707	446
06:00-06:59	3,833	1,099	631
07:00-07:59	5,081	1,625	945
08:00-08:59	3,532	2,221	1,448
09:00-09:59	2,956	2,765	2,156
10:00-10:59	2,918	3,157	2,651
11:00-11:59	3,164	3,386	3,034
12:00-12:59	3,221	3,315	3,071
13:00-13:59	3,264	3,119	2,877
14:00-14:59	3,728	3,105	2,971
15:00-15:59	4,406	3,116	3,046
16:00-16:59	5,562	3,209	3,146
17:00-17:59	5,070	3,113	2,899
18:00-18:59	2,961	2,540	2,349
19:00-19:59	2,012	2,008	1,845
20:00-20:59	1,783	1,849	1,485
21:00-21:59	1,466	1,771	1,108
22:00-22:59	917	1,228	622
23:00-23:59	527	769	393
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	301,000	45,548	38,388	384,936
				0%

2028 Build Conditions

Segment	9c
Target AADT	63,250

High Volume Hour Calculations

Hour	D Mon-Fri	Saturdays	Sundays
00:00-00:59	182	275	294
01:00-01:59	248	326	345
02:00-02:59	237	273	265
03:00-03:59	371	283	203
04:00-04:59	779	363	221
05:00-05:59	2,174	743	468
06:00-06:59	4,028	1,155	663
07:00-07:59	5,338	1,707	992
08:00-08:59	3,711	2,333	1,522
09:00-09:59	3,105	2,905	2,266
10:00-10:59	3,066	3,317	2,786
11:00-11:59	3,324	3,557	3,188
12:00-12:59	3,384	3,483	3,226
13:00-13:59	3,430	3,277	3,023
14:00-14:59	3,917	3,263	3,122
15:00-15:59	4,629	3,274	3,200
16:00-16:59	5,844	3,372	3,305
17:00-17:59	5,327	3,270	3,046
18:00-18:59	3,111	2,668	2,468
19:00-19:59	2,114	2,110	1,939
20:00-20:59	1,873	1,943	1,560
21:00-21:59	1,540	1,861	1,165
22:00-22:59	964	1,290	654
23:00-23:59	554	808	413
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	316,250	47,856	40,332	404,438
				0%

2028 Build Conditions

Segment	9d
Target AADT	59,530

High Volume Hour Calculations

Hour	D Mon-Fri	Saturdays	Sundays
00:00-00:59	171	259	277
01:00-01:59	233	307	324
02:00-02:59	223	257	249
03:00-03:59	349	266	191
04:00-04:59	733	342	208
05:00-05:59	2,046	699	441
06:00-06:59	3,791	1,087	624
07:00-07:59	5,025	1,607	934
08:00-08:59	3,493	2,196	1,432
09:00-09:59	2,923	2,734	2,132
10:00-10:59	2,885	3,122	2,622
11:00-11:59	3,129	3,348	3,000
12:00-12:59	3,185	3,278	3,036
13:00-13:59	3,228	3,084	2,845
14:00-14:59	3,687	3,071	2,938
15:00-15:59	4,357	3,081	3,012
16:00-16:59	5,500	3,173	3,111
17:00-17:59	5,014	3,078	2,867
18:00-18:59	2,928	2,511	2,323
19:00-19:59	1,990	1,986	1,825
20:00-20:59	1,763	1,829	1,468
21:00-21:59	1,450	1,752	1,096
22:00-22:59	907	1,214	615
23:00-23:59	521	761	389
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	297,650	45,041	37,960	380,652
				0%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.5%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.6%	28%	16%
9.1%	32%	19%
6.0%	65%	43%
5.2%	97%	78%
4.7%	112%	101%
5.0%	112%	106%
5.2%	109%	104%
5.5%	102%	98%
6.3%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.6%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.7%	111%	85%
2.1%	131%	75%
1.4%	144%	69%
0.8%	155%	74%

*Trends from ATR 050001

2028 Build Conditions

Segment	10a
Target AADT	55,350

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	143	230	248	
01:00-01:59	216	306	317	
02:00-02:59	219	257	243	
03:00-03:59	296	232	174	
04:00-04:59	693	340	213	
05:00-05:59	1,819	599	367	
06:00-06:59	3,634	1,032	589	
07:00-07:59	5,040	1,626	935	
08:00-08:59	3,347	2,186	1,433	
09:00-09:59	2,871	2,795	2,243	
10:00-10:59	2,625	2,937	2,649	
11:00-11:59	2,780	3,122	2,937	
12:00-12:59	2,883	3,150	3,012	
13:00-13:59	3,040	3,094	2,975	
14:00-14:59	3,464	3,075	3,032	
15:00-15:59	4,077	3,033	3,024	
16:00-16:59	5,188	3,032	2,967	
17:00-17:59	4,782	3,007	2,736	
18:00-18:59	2,578	2,339	2,146	
19:00-19:59	1,766	1,872	1,718	
20:00-20:59	1,509	1,676	1,287	
21:00-21:59	1,176	1,538	887	
22:00-22:59	764	1,098	526	
23:00-23:59	441	683	326	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	276,750	43,259	36,982	356,992
				0%

2028 Build Conditions

Segment	10b
Target AADT	57,300

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	148	238	257	
01:00-01:59	224	317	328	
02:00-02:59	227	266	252	
03:00-03:59	306	240	180	
04:00-04:59	718	352	220	
05:00-05:59	1,883	620	380	
06:00-06:59	3,762	1,068	610	
07:00-07:59	5,217	1,684	968	
08:00-08:59	3,465	2,263	1,483	
09:00-09:59	2,972	2,893	2,322	
10:00-10:59	2,718	3,040	2,742	
11:00-11:59	2,877	3,232	3,041	
12:00-12:59	2,984	3,261	3,118	
13:00-13:59	3,147	3,203	3,080	
14:00-14:59	3,586	3,184	3,139	
15:00-15:59	4,220	3,140	3,131	
16:00-16:59	5,371	3,139	3,072	
17:00-17:59	4,951	3,113	2,832	
18:00-18:59	2,669	2,422	2,221	
19:00-19:59	1,829	1,938	1,779	
20:00-20:59	1,562	1,735	1,332	
21:00-21:59	1,217	1,592	918	
22:00-22:59	791	1,137	544	
23:00-23:59	457	707	337	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	286,500	44,783	38,285	369,568
				0%

2028 Build Conditions

Segment	10c
Target AADT	58,850

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	152	245	264	
01:00-01:59	230	325	337	
02:00-02:59	233	273	259	
03:00-03:59	315	246	185	
04:00-04:59	737	361	226	
05:00-05:59	1,934	637	390	
06:00-06:59	3,864	1,097	626	
07:00-07:59	5,358	1,729	994	
08:00-08:59	3,559	2,324	1,523	
09:00-09:59	3,052	2,971	2,385	
10:00-10:59	2,791	3,122	2,816	
11:00-11:59	2,955	3,320	3,123	
12:00-12:59	3,065	3,349	3,202	
13:00-13:59	3,232	3,289	3,163	
14:00-14:59	3,683	3,270	3,224	
15:00-15:59	4,335	3,225	3,215	
16:00-16:59	5,516	3,224	3,155	
17:00-17:59	5,085	3,197	2,909	
18:00-18:59	2,741	2,487	2,281	
19:00-19:59	1,878	1,990	1,827	
20:00-20:59	1,604	1,782	1,368	
21:00-21:59	1,250	1,635	943	
22:00-22:59	813	1,168	559	
23:00-23:59	469	726	346	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	294,250	45,995	39,321	379,566
				0%

2028 Build Conditions

Segment	10d
Target AADT	55,250

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	143	230	248	
01:00-01:59	216	305	316	
02:00-02:59	218	256	243	
03:00-03:59	295	231	173	
04:00-04:59	692	339	212	
05:00-05:59	1,815	598	366	
06:00-06:59	3,627	1,030	588	
07:00-07:59	5,031	1,624	933	
08:00-08:59	3,341	2,182	1,430	
09:00-09:59	2,865	2,790	2,239	
10:00-10:59	2,621	2,931	2,644	
11:00-11:59	2,775	3,117	2,932	
12:00-12:59	2,877	3,144	3,006	
13:00-13:59	3,034	3,088	2,970	
14:00-14:59	3,457	3,070	3,027	
15:00-15:59	4,069	3,028	3,019	
16:00-16:59	5,179	3,027	2,962	
17:00-17:59	4,774	3,002	2,731	
18:00-18:59	2,573	2,335	2,142	
19:00-19:59	1,763	1,869	1,715	
20:00-20:59	1,506	1,673	1,285	
21:00-21:59	1,173	1,535	885	
22:00-22:59	763	1,096	525	
23:00-23:59	441	681	325	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	276,250	43,181	36,916	356,347
				0%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

*Trends from ATR 050001

2028 Build Conditions

Segment	11a
Target AADT	51,550

High Volume Hour Calculations

Hour	Mon-Fri (D)	Saturdays	Sundays
00:00-00:59	279	448	483
01:00-01:59	191	271	280
02:00-02:59	186	219	207
03:00-03:59	290	227	170
04:00-04:59	609	298	187
05:00-05:59	1,749	576	353
06:00-06:59	3,347	950	542
07:00-07:59	4,512	1,456	837
08:00-08:59	3,084	2,015	1,320
09:00-09:59	2,577	2,509	2,013
10:00-10:59	2,504	2,801	2,527
11:00-11:59	2,597	2,917	2,744
12:00-12:59	2,616	2,858	2,733
13:00-13:59	2,684	2,731	2,627
14:00-14:59	3,111	2,763	2,724
15:00-15:59	3,839	2,856	2,848
16:00-16:59	4,837	2,827	2,767
17:00-17:59	4,381	2,754	2,506
18:00-18:59	2,516	2,283	2,094
19:00-19:59	1,698	1,800	1,652
20:00-20:59	1,501	1,668	1,281
21:00-21:59	1,241	1,623	936
22:00-22:59	763	1,096	525
23:00-23:59	438	678	324
Formulas	AADT x A	B X D	C X D

Note: *Weekdays are multiplied by 5 to get the volume for the entire week*

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	257,750	40,624	34,678	333,052
				0%

2028 Build Conditions

Segment	11b
Target AADT	54,800

High Volume Hour Calculations

Hour	Mon-Fri (D)	Saturdays	Sundays
00:00-00:59	296	476	513
01:00-01:59	203	288	298
02:00-02:59	198	232	220
03:00-03:59	308	241	181
04:00-04:59	647	317	199
05:00-05:59	1,859	612	375
06:00-06:59	3,558	1,010	577
07:00-07:59	4,797	1,548	890
08:00-08:59	3,279	2,142	1,403
09:00-09:59	2,739	2,667	2,140
10:00-10:59	2,662	2,978	2,686
11:00-11:59	2,761	3,101	2,917
12:00-12:59	2,780	3,038	2,905
13:00-13:59	2,853	2,904	2,792
14:00-14:59	3,308	2,937	2,896
15:00-15:59	4,081	3,037	3,027
16:00-16:59	5,142	3,005	2,941
17:00-17:59	4,657	2,928	2,664
18:00-18:59	2,674	2,427	2,226
19:00-19:59	1,806	1,913	1,756
20:00-20:59	1,596	1,773	1,361
21:00-21:59	1,319	1,725	995
22:00-22:59	811	1,165	558
23:00-23:59	466	721	344
Formulas	AADT x A	B X D	C X D

Note: *Weekdays are multiplied by 5 to get the volume for the entire week*

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	274,000	43,186	36,864	354,050
				0%

2028 Build Conditions

Segment	11c & e
Target AADT	57,900

High Volume Hour Calculations

Hour	Mon-Fri (D)	Saturdays	Sundays
00:00-00:59	313	503	542
01:00-01:59	215	304	315
02:00-02:59	209	246	233
03:00-03:59	325	255	191
04:00-04:59	684	335	210
05:00-05:59	1,964	647	396
06:00-06:59	3,759	1,068	609
07:00-07:59	5,068	1,636	940
08:00-08:59	3,464	2,263	1,483
09:00-09:59	2,894	2,818	2,261
10:00-10:59	2,813	3,147	2,838
11:00-11:59	2,917	3,277	3,082
12:00-12:59	2,938	3,210	3,070
13:00-13:59	3,014	3,068	2,950
14:00-14:59	3,495	3,103	3,060
15:00-15:59	4,312	3,208	3,198
16:00-16:59	5,433	3,175	3,107
17:00-17:59	4,920	3,094	2,814
18:00-18:59	2,825	2,564	2,352
19:00-19:59	1,908	2,022	1,855
20:00-20:59	1,686	1,873	1,438
21:00-21:59	1,393	1,823	1,052
22:00-22:59	856	1,231	589
23:00-23:59	493	762	363
Formulas	AADT x A	B X D	C X D

Note: *Weekdays are multiplied by 5 to get the volume for the entire week*

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	289,500	45,629	38,950	374,078
				0%

2028 Build Conditions

Segment	11d
Target AADT	57,750

High Volume Hour Calculations

Hour	Mon-Fri (D)	Saturdays	Sundays
00:00-00:59	312	502	541
01:00-01:59	214	303	314
02:00-02:59	209	245	232
03:00-03:59	325	254	190
04:00-04:59	682	334	209
05:00-05:59	1,959	645	395
06:00-06:59	3,749	1,065	608
07:00-07:59	5,055	1,632	938
08:00-08:59	3,455	2,257	1,479
09:00-09:59	2,887	2,811	2,255
10:00-10:59	2,806	3,138	2,830
11:00-11:59	2,910	3,268	3,074
12:00-12:59	2,930	3,202	3,062
13:00-13:59	3,006	3,060	2,942
14:00-14:59	3,486	3,095	3,052
15:00-15:59	4,300	3,200	3,190
16:00-16:59	5,419	3,167	3,099
17:00-17:59	4,907	3,086	2,807
18:00-18:59	2,818	2,558	2,346
19:00-19:59	1,903	2,016	1,851
20:00-20:59	1,682	1,869	1,435
21:00-21:59	1,390	1,818	1,049
22:00-22:59	854	1,228	588
23:00-23:59	491	760	363
Formulas	AADT x A	B X D	C X D

Note: *Weekdays are multiplied by 5 to get the volume for the entire week*

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	288,750	45,510	38,849	373,109
				0%

2028 Build Conditions

Segment	11f
Target AADT	56,600

High Volume Hour Calculations

Hour	Mon-Fri (D)	Saturdays	Sundays
00:00-00:59	306	492	530
01:00-01:59	210	297	308
02:00-02:59	205	240	228
03:00-03:59	318	249	187
04:00-04:59	669	327	205
05:00-05:59	1,920	632	387
06:00-06:59	3,675	1,044	595
07:00-07:59	4,955	1,599	919
08:00-08:59	3,387	2,212	1,450
09:00-09:59	2,829	2,755	2,211
10:00-10:59	2,750	3,076	2,774
11:00-11:59	2,852	3,203	3,013
12:00-12:59	2,872	3,138	3,001
13:00-13:59	2,947	2,999	2,884
14:00-14:59	3,416	3,033	2,991
15:00-15:59	4,215	3,136	3,126
16:00-16:59	5,311	3,104	3,038
17:00-17:59	4,810	3,024	2,751
18:00-18:59	2,762	2,507	2,299
19:00-19:59	1,865	1,976	1,814
20:00-20:59	1,649	1,831	1,406
21:00-21:59	1,362	1,782	1,028
22:00-22:59	837	1,203	576
23:00-23:59	481	745	355
Formulas	AADT x A	B X D	C X D

Note: *Weekdays are multiplied by 5 to get the volume for the entire week*

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	283,000	44,604	38,075	365,679
				0%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.3%	28%	16%
8.7%	32%	19%
5.8%	65%	43%
4.9%	97%	78%
4.9%	112%	101%
5.2%	112%	106%
5.4%	109%	104%
5.6%	102%	98%
6.3%	89%	88%
7.6%	74%	74%
9.5%	58%	57%
8.2%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.6%	111%	85%
2.1%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

2028 Build Conditions

Segment	12a
Target AADT	54,850

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	271	436	470	
01:00-01:59	208	295	306	
02:00-02:59	227	266	252	
03:00-03:59	317	248	186	
04:00-04:59	713	349	219	
05:00-05:59	1,794	591	362	
06:00-06:59	3,470	986	562	
07:00-07:59	4,763	1,537	883	
08:00-08:59	3,198	2,089	1,369	
09:00-09:59	2,702	2,631	2,111	
10:00-10:59	2,686	3,004	2,710	
11:00-11:59	2,833	3,183	2,994	
12:00-12:59	2,953	3,226	3,085	
13:00-13:59	3,066	3,120	3,001	
14:00-14:59	3,470	3,081	3,039	
15:00-15:59	4,182	3,111	3,102	
16:00-16:59	5,224	3,053	2,988	
17:00-17:59	4,509	2,835	2,579	
18:00-18:59	2,601	2,360	2,165	
19:00-19:59	1,731	1,834	1,683	
20:00-20:59	1,441	1,600	1,229	
21:00-21:59	1,162	1,520	877	
22:00-22:59	820	1,179	564	
23:00-23:59	509	787	376	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	274,250	43,322	37,110	354,682
				0%

2028 Build Conditions

Segment	12b
Target AADT	57,150

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	283	454	490	
01:00-01:59	217	307	318	
02:00-02:59	236	277	263	
03:00-03:59	330	259	194	
04:00-04:59	743	364	228	
05:00-05:59	1,869	615	377	
06:00-06:59	3,616	1,027	586	
07:00-07:59	4,963	1,602	920	
08:00-08:59	3,332	2,177	1,426	
09:00-09:59	2,816	2,741	2,200	
10:00-10:59	2,799	3,130	2,823	
11:00-11:59	2,952	3,316	3,119	
12:00-12:59	3,077	3,362	3,215	
13:00-13:59	3,194	3,251	3,126	
14:00-14:59	3,616	3,211	3,166	
15:00-15:59	4,357	3,242	3,232	
16:00-16:59	5,443	3,181	3,113	
17:00-17:59	4,698	2,954	2,687	
18:00-18:59	2,710	2,459	2,256	
19:00-19:59	1,803	1,911	1,754	
20:00-20:59	1,501	1,668	1,280	
21:00-21:59	1,210	1,583	913	
22:00-22:59	855	1,229	588	
23:00-23:59	530	820	391	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	285,750	45,139	38,666	369,555
				0%

2028 Build Conditions

Segment	12c
Target AADT	59,550

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	295	473	510	
01:00-01:59	226	320	332	
02:00-02:59	246	288	274	
03:00-03:59	344	269	202	
04:00-04:59	774	379	238	
05:00-05:59	1,948	641	393	
06:00-06:59	3,768	1,070	611	
07:00-07:59	5,171	1,669	959	
08:00-08:59	3,472	2,268	1,486	
09:00-09:59	2,934	2,856	2,292	
10:00-10:59	2,916	3,262	2,942	
11:00-11:59	3,076	3,455	3,250	
12:00-12:59	3,206	3,503	3,350	
13:00-13:59	3,328	3,388	3,258	
14:00-14:59	3,768	3,345	3,299	
15:00-15:59	4,540	3,378	3,368	
16:00-16:59	5,672	3,315	3,244	
17:00-17:59	4,896	3,078	2,800	
18:00-18:59	2,824	2,563	2,350	
19:00-19:59	1,879	1,991	1,827	
20:00-20:59	1,564	1,738	1,334	
21:00-21:59	1,261	1,650	952	
22:00-22:59	891	1,280	613	
23:00-23:59	552	855	408	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	297,750	47,035	40,290	385,075
				0%

2028 Build Conditions

Segment	12d
Target AADT	57,750

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	286	459	495	
01:00-01:59	219	310	322	
02:00-02:59	238	280	265	
03:00-03:59	334	261	196	
04:00-04:59	751	368	230	
05:00-05:59	1,889	622	381	
06:00-06:59	3,654	1,038	592	
07:00-07:59	5,015	1,619	930	
08:00-08:59	3,367	2,199	1,441	
09:00-09:59	2,845	2,770	2,223	
10:00-10:59	2,828	3,163	2,853	
11:00-11:59	2,983	3,351	3,152	
12:00-12:59	3,109	3,397	3,248	
13:00-13:59	3,228	3,285	3,159	
14:00-14:59	3,654	3,244	3,199	
15:00-15:59	4,403	3,276	3,266	
16:00-16:59	5,500	3,215	3,146	
17:00-17:59	4,748	2,985	2,716	
18:00-18:59	2,738	2,485	2,279	
19:00-19:59	1,822	1,931	1,772	
20:00-20:59	1,517	1,685	1,294	
21:00-21:59	1,223	1,600	923	
22:00-22:59	864	1,242	594	
23:00-23:59	536	829	395	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	288,750	45,613	39,072	373,435
				0%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

2028 Build Conditions

Segment	13a
Target AADT	55,400

2028 Build Conditions

Segment	13b
Target AADT	59,000

2028 Build Conditions

Segment	13c
Target AADT	62,200

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	165%	185%
0.4%	144%	151%
0.4%	119%	113%
0.6%	78%	58%
1.3%	50%	31%
3.3%	32%	20%
6.2%	28%	16%
8.6%	32%	18%
5.9%	64%	41%
5.0%	96%	77%
4.9%	111%	100%
5.2%	111%	106%
5.4%	108%	103%
5.6%	101%	97%
6.4%	88%	86%
7.6%	74%	73%
9.4%	59%	57%
8.1%	64%	57%
4.8%	89%	81%
3.2%	105%	95%
2.7%	110%	83%
2.1%	130%	74%
1.5%	144%	70%
0.9%	156%	74%

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00-00:59		264	438	489
01:00-01:59		205	295	310
02:00-02:59		223	266	253
03:00-03:59		316	247	185
04:00-04:59		724	365	228
05:00-05:59		1,821	592	359
06:00-06:59		3,448	976	560
07:00-07:59		4,768	1,537	878
08:00-08:59		3,247	2,090	1,339
09:00-09:59		2,746	2,646	2,115
10:00-10:59		2,732	3,024	2,721
11:00-11:59		2,874	3,197	3,043
12:00-12:59		3,001	3,248	3,105
13:00-13:59		3,117	3,144	3,011
14:00-14:59		3,529	3,117	3,045
15:00-15:59		4,232	3,145	3,081
16:00-16:59		5,232	3,073	2,964
17:00-17:59		4,489	2,860	2,555
18:00-18:59		2,679	2,386	2,175
19:00-19:59		1,785	1,867	1,698
20:00-20:59		1,468	1,617	1,220
21:00-21:59		1,180	1,532	870
22:00-22:59		820	1,184	571
23:00-23:59		500	782	370
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	277,000	43,630	37,145	357,775
				0%

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00-00:59		282	466	520
01:00-01:59		219	315	330
02:00-02:59		237	283	269
03:00-03:59		337	263	197
04:00-04:59		771	389	242
05:00-05:59		1,939	630	383
06:00-06:59		3,672	1,040	597
07:00-07:59		5,077	1,637	935
08:00-08:59		3,458	2,226	1,426
09:00-09:59		2,925	2,818	2,253
10:00-10:59		2,910	3,220	2,898
11:00-11:59		3,061	3,405	3,241
12:00-12:59		3,196	3,459	3,307
13:00-13:59		3,320	3,349	3,206
14:00-14:59		3,758	3,320	3,243
15:00-15:59		4,507	3,350	3,281
16:00-16:59		5,571	3,272	3,157
17:00-17:59		4,780	3,046	2,721
18:00-18:59		2,853	2,541	2,317
19:00-19:59		1,901	1,988	1,808
20:00-20:59		1,564	1,722	1,299
21:00-21:59		1,256	1,631	927
22:00-22:59		873	1,261	608
23:00-23:59		533	833	394
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	295,000	46,465	39,558	381,024
				0%

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00-00:59		297	491	549
01:00-01:59		230	332	348
02:00-02:59		250	298	284
03:00-03:59		355	277	208
04:00-04:59		813	410	256
05:00-05:59		2,044	664	404
06:00-06:59		3,871	1,096	629
07:00-07:59		5,353	1,726	986
08:00-08:59		3,646	2,347	1,503
09:00-09:59		3,083	2,971	2,375
10:00-10:59		3,068	3,395	3,055
11:00-11:59		3,227	3,590	3,417
12:00-12:59		3,369	3,647	3,486
13:00-13:59		3,500	3,530	3,380
14:00-14:59		3,962	3,500	3,419
15:00-15:59		4,752	3,531	3,459
16:00-16:59		5,874	3,450	3,328
17:00-17:59		5,040	3,211	2,869
18:00-18:59		3,008	2,679	2,442
19:00-19:59		2,004	2,096	1,906
20:00-20:59		1,649	1,816	1,369
21:00-21:59		1,324	1,720	977
22:00-22:59		920	1,330	641
23:00-23:59		562	878	415
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	311,000	48,985	41,704	401,689
				0%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

2048 Build Conditions

Segment	1a
Target AADT	91,000

2048 Build Conditions

Segment	1b
Target AADT	84,750

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	142%	135%
0.5%	110%	103%
0.4%	110%	100%
0.6%	76%	51%
1.3%	46%	27%
2.7%	36%	23%
5.0%	33%	19%
7.7%	32%	18%
5.9%	60%	39%
4.9%	94%	71%
5.2%	109%	91%
5.6%	107%	97%
6.0%	104%	97%
6.2%	98%	89%
6.9%	86%	80%
7.9%	73%	71%
9.0%	62%	60%
7.8%	65%	61%
5.0%	85%	78%
3.5%	94%	84%
2.8%	98%	76%
2.2%	108%	71%
1.5%	115%	66%
0.9%	132%	67%

High Volume Hour Calculations

D

Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	483	685	653
01:00-01:59	412	455	422
02:00-02:59	349	384	350
03:00-03:59	510	386	258
04:00-04:59	1,159	537	316
05:00-05:59	2,491	909	569
06:00-06:59	4,505	1,492	842
07:00-07:59	7,022	2,277	1,293
08:00-08:59	5,379	3,236	2,080
09:00-09:59	4,479	4,227	3,202
10:00-10:59	4,709	5,129	4,304
11:00-11:59	5,140	5,512	4,994
12:00-12:59	5,442	5,680	5,256
13:00-13:59	5,679	5,555	5,074
14:00-14:59	6,324	5,419	5,073
15:00-15:59	7,187	5,275	5,117
16:00-16:59	8,218	5,073	4,928
17:00-17:59	7,086	4,617	4,293
18:00-18:59	4,538	3,840	3,529
19:00-19:59	3,165	2,979	2,666
20:00-20:59	2,538	2,491	1,938
21:00-21:59	1,964	2,118	1,400
22:00-22:59	1,404	1,618	922
23:00-23:59	814	1,074	547
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

6

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	179,192	0	0	179,192
Total Volume	455,000	70,965	60,025	585,991
				31%

High Volume Hour Calculations

D

Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	450	638	608
01:00-01:59	384	424	393
02:00-02:59	325	357	326
03:00-03:59	475	359	241
04:00-04:59	1,080	500	294
05:00-05:59	2,320	846	530
06:00-06:59	4,196	1,390	784
07:00-07:59	6,540	2,120	1,205
08:00-08:59	5,009	3,014	1,937
09:00-09:59	4,171	3,937	2,982
10:00-10:59	4,386	4,777	4,008
11:00-11:59	4,787	5,133	4,651
12:00-12:59	5,068	5,290	4,895
13:00-13:59	5,289	5,173	4,726
14:00-14:59	5,890	5,047	4,725
15:00-15:59	6,693	4,913	4,766
16:00-16:59	7,654	4,725	4,590
17:00-17:59	6,599	4,300	3,998
18:00-18:59	4,226	3,576	3,287
19:00-19:59	2,948	2,774	2,483
20:00-20:59	2,364	2,320	1,805
21:00-21:59	1,829	1,972	1,304
22:00-22:59	1,308	1,506	858
23:00-23:59	759	1,000	509
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

6

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	137,434	0	0	137,434
Total Volume	423,750	66,091	55,903	545,744
				25%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.2%	44%	26%
2.8%	34%	22%
5.1%	32%	17%
7.7%	32%	18%
5.7%	60%	39%
5.0%	94%	73%
5.0%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.6%	80%	77%
7.4%	67%	68%
9.1%	58%	58%
8.0%	61%	59%
5.2%	80%	78%
3.7%	92%	88%
3.2%	97%	80%
2.6%	109%	74%
1.6%	116%	69%
0.9%	133%	69%

Trends from ATR 440105

2048 Build Conditions

Segment	2a
Target AADT	79,350

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	225	300	294	
01:00-01:59	330	352	341	
02:00-02:59	292	299	263	
03:00-03:59	448	323	204	
04:00-04:59	978	431	252	
05:00-05:59	2,252	772	488	
06:00-06:59	4,072	1,294	711	
07:00-07:59	6,076	1,936	1,124	
08:00-08:59	4,554	2,739	1,768	
09:00-09:59	3,956	3,699	2,879	
10:00-10:59	3,967	4,190	3,639	
11:00-11:59	4,394	4,499	4,181	
12:00-12:59	4,605	4,510	4,332	
13:00-13:59	4,878	4,426	4,187	
14:00-14:59	5,254	4,199	4,053	
15:00-15:59	5,844	3,923	3,958	
16:00-16:59	7,220	4,158	4,153	
17:00-17:59	6,381	3,880	3,786	
18:00-18:59	4,111	3,293	3,204	
19:00-19:59	2,924	2,686	2,585	
20:00-20:59	2,507	2,429	2,018	
21:00-21:59	2,083	2,267	1,549	
22:00-22:59	1,304	1,510	896	
23:00-23:59	694	923	479	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	98,388	0	0	98,388
Total Volume	396,750	59,038	51,343	507,130
				19%

2048 Build Conditions

Segment	2b
Target AADT	87,100

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	246	329	323	
01:00-01:59	362	386	374	
02:00-02:59	321	329	288	
03:00-03:59	491	354	223	
04:00-04:59	1,074	473	276	
05:00-05:59	2,472	847	536	
06:00-06:59	4,469	1,420	781	
07:00-07:59	6,670	2,126	1,234	
08:00-08:59	4,999	3,006	1,940	
09:00-09:59	4,342	4,060	3,161	
10:00-10:59	4,354	4,599	3,994	
11:00-11:59	4,823	4,938	4,590	
12:00-12:59	5,055	4,950	4,755	
13:00-13:59	5,354	4,858	4,596	
14:00-14:59	5,768	4,609	4,449	
15:00-15:59	6,415	4,307	4,344	
16:00-16:59	7,925	4,564	4,559	
17:00-17:59	7,005	4,259	4,156	
18:00-18:59	4,513	3,614	3,517	
19:00-19:59	3,209	2,948	2,838	
20:00-20:59	2,752	2,666	2,215	
21:00-21:59	2,287	2,488	1,700	
22:00-22:59	1,431	1,658	984	
23:00-23:59	762	1,013	525	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	140,072	0	0	140,072
Total Volume	435,500	64,804	56,357	556,661
				25%

2048 Build Conditions

Segment	2c
Target AADT	95,100

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	269	360	352	
01:00-01:59	396	422	408	
02:00-02:59	350	359	315	
03:00-03:59	537	387	244	
04:00-04:59	1,172	517	302	
05:00-05:59	2,699	925	585	
06:00-06:59	4,880	1,551	852	
07:00-07:59	7,282	2,321	1,347	
08:00-08:59	5,458	3,282	2,118	
09:00-09:59	4,741	4,433	3,451	
10:00-10:59	4,754	5,022	4,361	
11:00-11:59	5,266	5,392	5,011	
12:00-12:59	5,520	5,405	5,192	
13:00-13:59	5,846	5,305	5,018	
14:00-14:59	6,297	5,033	4,858	
15:00-15:59	7,004	4,702	4,743	
16:00-16:59	8,653	4,983	4,978	
17:00-17:59	7,648	4,650	4,538	
18:00-18:59	4,927	3,946	3,839	
19:00-19:59	3,504	3,219	3,099	
20:00-20:59	3,005	2,911	2,418	
21:00-21:59	2,497	2,716	1,856	
22:00-22:59	1,563	1,810	1,074	
23:00-23:59	832	1,106	574	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	184,425	0	0	184,425
Total Volume	475,500	70,756	61,534	607,790
				30%

2048 Build Conditions

Segment	2d
Target AADT	87,300

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	247	330	323	
01:00-01:59	363	387	375	
02:00-02:59	321	329	289	
03:00-03:59	493	355	224	
04:00-04:59	1,076	474	277	
05:00-05:59	2,477	849	537	
06:00-06:59	4,480	1,423	782	
07:00-07:59	6,685	2,130	1,236	
08:00-08:59	5,011	3,013	1,945	
09:00-09:59	4,352	4,070	3,168	
10:00-10:59	4,364	4,610	4,003	
11:00-11:59	4,834	4,950	4,600	
12:00-12:59	5,067	4,962	4,766	
13:00-13:59	5,367	4,869	4,607	
14:00-14:59	5,781	4,620	4,459	
15:00-15:59	6,430	4,316	4,354	
16:00-16:59	7,943	4,574	4,569	
17:00-17:59	7,021	4,269	4,166	
18:00-18:59	4,523	3,623	3,525	
19:00-19:59	3,217	2,955	2,844	
20:00-20:59	2,759	2,672	2,220	
21:00-21:59	2,292	2,494	1,704	
22:00-22:59	1,434	1,662	986	
23:00-23:59	764	1,015	527	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	140,394	0	0	140,394
Total Volume	436,500	64,953	56,487	557,939
				25%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	134%	131%
0.4%	107%	103%
0.4%	102%	90%
0.6%	72%	45%
1.4%	44%	26%
3.0%	34%	22%
5.5%	32%	17%
8.3%	32%	18%
6.1%	60%	39%
5.0%	94%	73%
5.1%	106%	92%
5.5%	102%	95%
5.8%	98%	94%
6.1%	91%	86%
6.7%	80%	77%
7.8%	67%	68%
8.9%	58%	58%
7.6%	61%	59%
4.8%	80%	78%
3.3%	92%	88%
2.7%	97%	80%
2.0%	109%	74%
1.5%	116%	69%
0.9%	133%	69%

2048 Build Conditions

Segment	3a
Target AADT	77,350

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	411	550	538	
01:00-01:59	339	361	350	
02:00-02:59	308	315	277	
03:00-03:59	497	358	226	
04:00-04:59	1,088	480	280	
05:00-05:59	2,347	805	509	
06:00-06:59	4,249	1,350	742	
07:00-07:59	6,422	2,047	1,188	
08:00-08:59	4,739	2,850	1,839	
09:00-09:59	3,853	3,603	2,804	
10:00-10:59	3,954	4,177	3,628	
11:00-11:59	4,288	4,391	4,081	
12:00-12:59	4,521	4,427	4,252	
13:00-13:59	4,696	4,261	4,031	
14:00-14:59	5,208	4,162	4,017	
15:00-15:59	6,015	4,038	4,073	
16:00-16:59	6,846	3,942	3,938	
17:00-17:59	5,883	3,577	3,490	
18:00-18:59	3,691	2,956	2,876	
19:00-19:59	2,546	2,339	2,252	
20:00-20:59	2,059	1,995	1,657	
21:00-21:59	1,584	1,723	1,177	
22:00-22:59	1,130	1,309	777	
23:00-23:59	675	897	465	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	96,414	0	0	96,414
Total Volume	386,750	56,913	49,469	493,131
				20%

2048 Build Conditions

Segment	3b
Target AADT	83,600

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	444	594	582	
01:00-01:59	366	390	378	
02:00-02:59	333	341	299	
03:00-03:59	537	387	244	
04:00-04:59	1,176	519	303	
05:00-05:59	2,537	870	550	
06:00-06:59	4,593	1,459	802	
07:00-07:59	6,941	2,212	1,284	
08:00-08:59	5,122	3,081	1,988	
09:00-09:59	4,164	3,894	3,031	
10:00-10:59	4,274	4,515	3,921	
11:00-11:59	4,635	4,746	4,410	
12:00-12:59	4,886	4,785	4,596	
13:00-13:59	5,075	4,605	4,356	
14:00-14:59	5,628	4,498	4,342	
15:00-15:59	6,501	4,364	4,403	
16:00-16:59	7,399	4,261	4,256	
17:00-17:59	6,358	3,866	3,772	
18:00-18:59	3,989	3,195	3,109	
19:00-19:59	2,752	2,528	2,434	
20:00-20:59	2,226	2,156	1,791	
21:00-21:59	1,711	1,862	1,272	
22:00-22:59	1,221	1,414	839	
23:00-23:59	729	970	503	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	135,995	0	0	135,995
Total Volume	418,000	61,511	53,466	532,977
				26%

2048 Build Conditions

Segment	3c
Target AADT	90,500

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	481	643	630	
01:00-01:59	397	423	409	
02:00-02:59	360	369	324	
03:00-03:59	581	419	264	
04:00-04:59	1,273	561	328	
05:00-05:59	2,746	941	596	
06:00-06:59	4,972	1,580	868	
07:00-07:59	7,514	2,395	1,390	
08:00-08:59	5,545	3,335	2,152	
09:00-09:59	4,508	4,215	3,281	
10:00-10:59	4,627	4,888	4,245	
11:00-11:59	5,017	5,137	4,774	
12:00-12:59	5,290	5,180	4,975	
13:00-13:59	5,494	4,985	4,716	
14:00-14:59	6,093	4,869	4,700	
15:00-15:59	7,038	4,724	4,766	
16:00-16:59	8,010	4,612	4,608	
17:00-17:59	6,883	4,185	4,084	
18:00-18:59	4,318	3,459	3,365	
19:00-19:59	2,979	2,737	2,634	
20:00-20:59	2,409	2,334	1,939	
21:00-21:59	1,853	2,016	1,378	
22:00-22:59	1,322	1,531	909	
23:00-23:59	789	1,050	544	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	177,684	0	0	177,684
Total Volume	452,500	66,588	57,879	576,967
				31%

2048 Build Conditions

Segment	3d
Target AADT	81,550

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	434	579	567	
01:00-01:59	357	381	369	
02:00-02:59	325	333	292	
03:00-03:59	524	378	238	
04:00-04:59	1,148	506	295	
05:00-05:59	2,475	848	537	
06:00-06:59	4,480	1,423	783	
07:00-07:59	6,771	2,158	1,252	
08:00-08:59	4,997	3,005	1,939	
09:00-09:59	4,062	3,798	2,957	
10:00-10:59	4,169	4,404	3,825	
11:00-11:59	4,521	4,629	4,302	
12:00-12:59	4,766	4,668	4,483	
13:00-13:59	4,951	4,492	4,250	
14:00-14:59	5,490	4,388	4,235	
15:00-15:59	6,342	4,257	4,295	
16:00-16:59	7,217	4,156	4,152	
17:00-17:59	6,202	3,771	3,680	
18:00-18:59	3,891	3,117	3,032	
19:00-19:59	2,685	2,466	2,374	
20:00-20:59	2,171	2,103	1,747	
21:00-21:59	1,670	1,816	1,241	
22:00-22:59	1,191	1,380	819	
23:00-23:59	711	946	491	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (8-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	132,660	0	0	132,660
Total Volume	407,750	60,003	52,155	519,908
				26%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	136%	133%
0.4%	107%	103%
0.4%	103%	90%
0.6%	74%	47%
1.3%	44%	26%
2.8%	35%	22%
5.2%	32%	18%
7.8%	34%	20%
5.9%	63%	40%
5.0%	98%	76%
5.3%	111%	95%
5.7%	108%	99%
6.0%	104%	99%
6.2%	97%	92%
6.8%	87%	83%
7.8%	74%	73%
8.8%	63%	63%
7.7%	65%	62%
5.0%	84%	77%
3.5%	93%	84%
2.8%	97%	77%
2.1%	109%	71%
1.4%	118%	67%
0.8%	134%	68%

2048 Build Conditions

Segment	4a
Target AADT	73,400

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00-00:59		368	501	490
01:00-01:59		302	324	309
02:00-02:59		266	273	240
03:00-03:59		435	321	205
04:00-04:59		990	438	257
05:00-05:59		2,078	720	462
06:00-06:59		3,781	1,224	680
07:00-07:59		5,692	1,931	1,115
08:00-08:59		4,358	2,738	1,758
09:00-09:59		3,668	3,591	2,779
10:00-10:59		3,856	4,271	3,682
11:00-11:59		4,205	4,543	4,172
12:00-12:59		4,428	4,607	4,404
13:00-13:59		4,587	4,443	4,202
14:00-14:59		5,008	4,339	4,179
15:00-15:59		5,709	4,217	4,194
16:00-16:59		6,459	4,077	4,038
17:00-17:59		5,684	3,686	3,519
18:00-18:59		3,691	3,082	2,850
19:00-19:59		2,584	2,411	2,170
20:00-20:59		2,038	1,981	1,574
21:00-21:59		1,547	1,688	1,099
22:00-22:59		1,047	1,231	702
23:00-23:59		618	826	422
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	32,295	0	0	32,295
Total Volume	367,000	57,464	49,503	473,967
				7%

2048 Build Conditions

Segment	4b
Target AADT	81,450

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00-00:59		408	555	543
01:00-01:59		335	360	343
02:00-02:59		296	303	267
03:00-03:59		483	357	228
04:00-04:59		1,098	487	285
05:00-05:59		2,306	799	513
06:00-06:59		4,196	1,359	754
07:00-07:59		6,317	2,143	1,237
08:00-08:59		4,836	3,038	1,951
09:00-09:59		4,071	3,985	3,084
10:00-10:59		4,279	4,740	4,086
11:00-11:59		4,666	5,041	4,630
12:00-12:59		4,914	5,112	4,886
13:00-13:59		5,090	4,930	4,663
14:00-14:59		5,558	4,815	4,638
15:00-15:59		6,335	4,680	4,654
16:00-16:59		7,167	4,524	4,481
17:00-17:59		6,307	4,090	3,905
18:00-18:59		4,096	3,420	3,163
19:00-19:59		2,868	2,676	2,408
20:00-20:59		2,262	2,198	1,746
21:00-21:59		1,716	1,873	1,220
22:00-22:59		1,161	1,366	779
23:00-23:59		686	916	469
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	130,632	0	0	130,632
Total Volume	407,250	63,767	54,932	525,949
				25%

2048 Build Conditions

Segment	4c
Target AADT	89,850

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00-00:59		450	613	599
01:00-01:59		369	397	379
02:00-02:59		326	335	294
03:00-03:59		532	393	251
04:00-04:59		1,211	537	315
05:00-05:59		2,544	881	566
06:00-06:59		4,629	1,499	832
07:00-07:59		6,968	2,364	1,365
08:00-08:59		5,335	3,351	2,152
09:00-09:59		4,491	4,395	3,402
10:00-10:59		4,721	5,229	4,507
11:00-11:59		5,147	5,561	5,107
12:00-12:59		5,421	5,639	5,390
13:00-13:59		5,615	5,438	5,144
14:00-14:59		6,131	5,312	5,116
15:00-15:59		6,989	5,163	5,134
16:00-16:59		7,907	4,991	4,943
17:00-17:59		6,957	4,512	4,307
18:00-18:59		4,518	3,773	3,489
19:00-19:59		3,163	2,952	2,657
20:00-20:59		2,495	2,425	1,926
21:00-21:59		1,893	2,066	1,345
22:00-22:59		1,281	1,507	859
23:00-23:59		756	1,011	517
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	174,759	0	0	174,759
Total Volume	449,250	70,343	60,597	580,190
				30%

2048 Build Conditions

Segment	4d
Target AADT	79,900

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00-00:59		400	545	533
01:00-01:59		328	353	337
02:00-02:59		290	297	262
03:00-03:59		473	350	223
04:00-04:59		1,077	477	280
05:00-05:59		2,262	783	503
06:00-06:59		4,116	1,333	740
07:00-07:59		6,196	2,102	1,214
08:00-08:59		4,744	2,980	1,913
09:00-09:59		3,993	3,909	3,025
10:00-10:59		4,198	4,650	4,008
11:00-11:59		4,577	4,945	4,542
12:00-12:59		4,820	5,015	4,794
13:00-13:59		4,993	4,836	4,574
14:00-14:59		5,452	4,724	4,549
15:00-15:59		6,215	4,591	4,566
16:00-16:59		7,031	4,438	4,396
17:00-17:59		6,187	4,012	3,830
18:00-18:59		4,018	3,355	3,102
19:00-19:59		2,813	2,625	2,362
20:00-20:59		2,219	2,156	1,713
21:00-21:59		1,684	1,837	1,196
22:00-22:59		1,139	1,340	764
23:00-23:59		673	899	460
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	128,147	0	0	128,147
Total Volume	399,500	62,553	53,887	515,940
				25%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
8.0%	34%	20%
5.9%	65%	42%
5.0%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.5%	105%	99%
5.9%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.1%	60%	58%
8.2%	63%	57%
5.3%	84%	75%
3.7%	96%	85%
3.0%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

*Trends from ATR 441218

2048 Build Conditions

Segment	5a
Target AADT	71,950

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	164	243	254
01:00-01:59	233	293	293
02:00-02:59	265	289	275
03:00-03:59	423	317	214
04:00-04:59	921	413	248
05:00-05:59	2,191	758	472
06:00-06:59	4,063	1,198	658
07:00-07:59	5,751	1,944	1,137
08:00-08:59	4,247	2,755	1,784
09:00-09:59	3,562	3,473	2,697
10:00-10:59	3,551	3,959	3,393
11:00-11:59	3,807	4,121	3,744
12:00-12:59	3,969	4,185	3,914
13:00-13:59	4,224	4,150	3,812
14:00-14:59	4,624	3,993	3,787
15:00-15:59	5,300	3,842	3,709
16:00-16:59	6,578	3,980	3,835
17:00-17:59	5,929	3,739	3,379
18:00-18:59	3,821	3,193	2,858
19:00-19:59	2,628	2,516	2,228
20:00-20:59	2,188	2,145	1,639
21:00-21:59	1,868	2,126	1,275
22:00-22:59	1,090	1,377	697
23:00-23:59	551	796	376
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	32,890	0	0	32,890
Total Volume	359,750	55,805	46,678	462,233
				7%

2048 Build Conditions

Segment	5b
Target AADT	84,350

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	193	285	298
01:00-01:59	273	344	343
02:00-02:59	310	339	322
03:00-03:59	496	372	251
04:00-04:59	1,080	484	291
05:00-05:59	2,568	888	553
06:00-06:59	4,763	1,404	771
07:00-07:59	6,742	2,279	1,333
08:00-08:59	4,979	3,229	2,091
09:00-09:59	4,176	4,071	3,162
10:00-10:59	4,163	4,642	3,978
11:00-11:59	4,463	4,831	4,389
12:00-12:59	4,653	4,906	4,588
13:00-13:59	4,952	4,865	4,469
14:00-14:59	5,421	4,682	4,440
15:00-15:59	6,213	4,504	4,349
16:00-16:59	7,712	4,666	4,496
17:00-17:59	6,951	4,384	3,962
18:00-18:59	4,480	3,744	3,350
19:00-19:59	3,081	2,949	2,612
20:00-20:59	2,566	2,515	1,922
21:00-21:59	2,190	2,493	1,495
22:00-22:59	1,278	1,615	817
23:00-23:59	646	933	440
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	138,089	0	0	138,089
Total Volume	421,750	65,423	54,722	541,895
				25%

2048 Build Conditions

Segment	5c
Target AADT	99,600

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	227	337	352
01:00-01:59	323	406	405
02:00-02:59	366	400	381
03:00-03:59	586	439	296
04:00-04:59	1,275	572	344
05:00-05:59	3,033	1,049	653
06:00-06:59	5,625	1,658	911
07:00-07:59	7,961	2,691	1,574
08:00-08:59	5,879	3,813	2,469
09:00-09:59	4,931	4,807	3,733
10:00-10:59	4,916	5,481	4,697
11:00-11:59	5,270	5,705	5,183
12:00-12:59	5,494	5,793	5,418
13:00-13:59	5,848	5,745	5,277
14:00-14:59	6,401	5,528	5,243
15:00-15:59	7,336	5,318	5,135
16:00-16:59	9,106	5,509	5,308
17:00-17:59	8,208	5,176	4,678
18:00-18:59	5,290	4,421	3,956
19:00-19:59	3,638	3,482	3,084
20:00-20:59	3,029	2,969	2,269
21:00-21:59	2,586	2,943	1,765
22:00-22:59	1,510	1,906	965
23:00-23:59	763	1,102	520
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	195,058	0	0	195,058
Total Volume	498,000	77,251	64,616	639,867
				30%

2048 Build Conditions

Segment	5d
Target AADT	91,550

High Volume Hour Calculations

	D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	209	309	324
01:00-01:59	297	373	372
02:00-02:59	337	368	350
03:00-03:59	538	404	272
04:00-04:59	1,172	526	316
05:00-05:59	2,788	964	601
06:00-06:59	5,170	1,524	837
07:00-07:59	7,317	2,474	1,447
08:00-08:59	5,404	3,505	2,270
09:00-09:59	4,533	4,419	3,432
10:00-10:59	4,518	5,038	4,317
11:00-11:59	4,844	5,244	4,764
12:00-12:59	5,050	5,324	4,980
13:00-13:59	5,375	5,281	4,850
14:00-14:59	5,883	5,081	4,819
15:00-15:59	6,743	4,888	4,720
16:00-16:59	8,370	5,064	4,879
17:00-17:59	7,545	4,758	4,300
18:00-18:59	4,862	4,063	3,636
19:00-19:59	3,344	3,201	2,835
20:00-20:59	2,785	2,729	2,086
21:00-21:59	2,377	2,705	1,622
22:00-22:59	1,388	1,752	887
23:00-23:59	701	1,013	478
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	149,876	0	0	149,876
Total Volume	457,750	71,007	59,393	588,151
				25%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.2%	148%	155%
0.3%	126%	126%
0.3%	109%	104%
0.5%	75%	51%
1.3%	45%	27%
3.1%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
4.9%	97%	76%
4.9%	111%	96%
5.3%	108%	98%
5.6%	105%	99%
5.8%	98%	90%
6.4%	86%	82%
7.4%	72%	70%
9.0%	60%	58%
8.4%	63%	57%
5.4%	84%	75%
3.7%	96%	85%
3.1%	98%	75%
2.6%	114%	68%
1.5%	126%	64%
0.8%	144%	68%

*Trends from ATR 441218

2048 Build Conditions

Segment	6a
Target AADT	82,400

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	191	283	296	
01:00-01:59	257	323	322	
02:00-02:59	287	314	298	
03:00-03:59	446	335	226	
04:00-04:59	1,069	479	288	
05:00-05:59	2,522	872	544	
06:00-06:59	4,624	1,363	749	
07:00-07:59	6,548	2,214	1,295	
08:00-08:59	4,752	3,082	1,996	
09:00-09:59	4,051	3,949	3,067	
10:00-10:59	4,072	4,540	3,891	
11:00-11:59	4,349	4,708	4,277	
12:00-12:59	4,598	4,848	4,534	
13:00-13:59	4,757	4,674	4,293	
14:00-14:59	5,292	4,570	4,335	
15:00-15:59	6,122	4,438	4,285	
16:00-16:59	7,440	4,501	4,337	
17:00-17:59	6,908	4,357	3,937	
18:00-18:59	4,450	3,719	3,328	
19:00-19:59	3,055	2,924	2,590	
20:00-20:59	2,574	2,523	1,928	
21:00-21:59	2,160	2,458	1,474	
22:00-22:59	1,251	1,580	799	
23:00-23:59	625	902	426	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	135,091	0	0	135,091
Total Volume	412,000	63,955	53,513	529,468
				26%

2048 Build Conditions

Segment	6b
Target AADT	92,050

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	214	316	331	
01:00-01:59	287	361	360	
02:00-02:59	321	351	333	
03:00-03:59	498	374	252	
04:00-04:59	1,194	536	322	
05:00-05:59	2,818	974	607	
06:00-06:59	5,166	1,523	836	
07:00-07:59	7,315	2,473	1,447	
08:00-08:59	5,308	3,443	2,230	
09:00-09:59	4,525	4,411	3,426	
10:00-10:59	4,549	5,072	4,347	
11:00-11:59	4,859	5,259	4,778	
12:00-12:59	5,137	5,416	5,065	
13:00-13:59	5,314	5,221	4,795	
14:00-14:59	5,911	5,106	4,842	
15:00-15:59	6,839	4,957	4,786	
16:00-16:59	8,311	5,028	4,845	
17:00-17:59	7,717	4,867	4,398	
18:00-18:59	4,971	4,154	3,718	
19:00-19:59	3,413	3,267	2,894	
20:00-20:59	2,875	2,818	2,154	
21:00-21:59	2,413	2,746	1,647	
22:00-22:59	1,397	1,765	893	
23:00-23:59	698	1,007	476	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	150,911	0	0	150,911
Total Volume	460,250	71,445	59,780	591,475
				26%

2048 Build Conditions

Segment	6c
Target AADT	101,550

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	236	349	365	
01:00-01:59	316	398	397	
02:00-02:59	354	387	368	
03:00-03:59	550	413	278	
04:00-04:59	1,318	591	355	
05:00-05:59	3,109	1,075	670	
06:00-06:59	5,699	1,680	923	
07:00-07:59	8,070	2,728	1,596	
08:00-08:59	5,856	3,799	2,460	
09:00-09:59	4,992	4,866	3,779	
10:00-10:59	5,019	5,596	4,795	
11:00-11:59	5,360	5,802	5,271	
12:00-12:59	5,667	5,974	5,588	
13:00-13:59	5,863	5,760	5,290	
14:00-14:59	6,522	5,633	5,342	
15:00-15:59	7,544	5,469	5,280	
16:00-16:59	9,169	5,547	5,345	
17:00-17:59	8,514	5,369	4,852	
18:00-18:59	5,484	4,583	4,101	
19:00-19:59	3,765	3,604	3,192	
20:00-20:59	3,172	3,109	2,376	
21:00-21:59	2,662	3,029	1,816	
22:00-22:59	1,541	1,947	985	
23:00-23:59	770	1,111	525	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	199,094	0	0	199,094
Total Volume	507,750	78,818	65,950	652,518
				31%

2048 Build Conditions

Segment	6d
Target AADT	75,450

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	175	259	271	
01:00-01:59	235	296	295	
02:00-02:59	263	287	273	
03:00-03:59	409	307	207	
04:00-04:59	979	439	264	
05:00-05:59	2,310	799	498	
06:00-06:59	4,234	1,248	686	
07:00-07:59	5,996	2,027	1,186	
08:00-08:59	4,351	2,822	1,828	
09:00-09:59	3,709	3,616	2,808	
10:00-10:59	3,729	4,157	3,563	
11:00-11:59	3,982	4,311	3,916	
12:00-12:59	4,210	4,439	4,152	
13:00-13:59	4,356	4,279	3,931	
14:00-14:59	4,845	4,185	3,969	
15:00-15:59	5,605	4,063	3,923	
16:00-16:59	6,812	4,121	3,971	
17:00-17:59	6,326	3,989	3,605	
18:00-18:59	4,075	3,405	3,047	
19:00-19:59	2,797	2,678	2,372	
20:00-20:59	2,357	2,310	1,765	
21:00-21:59	1,978	2,251	1,350	
22:00-22:59	1,145	1,446	732	
23:00-23:59	572	826	390	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	65,690	0	0	65,690
Total Volume	377,250	58,560	49,000	484,810
				14%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

2048 Build Conditions

Segment	7a
Target AADT	65,050

2048 Build Conditions

Segment	7b
Target AADT	79,100

Relationships

A	*B*	*C*
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	148%	155%
0.4%	126%	126%
0.4%	109%	104%
0.6%	75%	51%
1.3%	45%	27%
3.0%	35%	22%
5.6%	29%	16%
7.9%	34%	20%
5.8%	65%	42%
5.0%	97%	76%
5.1%	111%	96%
5.6%	108%	98%
5.8%	105%	99%
6.0%	98%	90%
6.6%	86%	82%
7.8%	72%	70%
9.0%	60%	58%
8.0%	63%	57%
5.0%	84%	75%
3.4%	96%	85%
2.8%	98%	75%
2.1%	114%	68%
1.4%	126%	64%
0.9%	144%	68%

High Volume Hour Calculations

D

Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	314	465	487
01:00-01:59	242	305	304
02:00-02:59	245	268	255
03:00-03:59	368	276	186
04:00-04:59	863	387	233
05:00-05:59	1,936	669	417
06:00-06:59	3,622	1,068	586
07:00-07:59	5,120	1,731	1,012
08:00-08:59	3,781	2,453	1,588
09:00-09:59	3,238	3,156	2,451
10:00-10:59	3,348	3,733	3,199
11:00-11:59	3,625	3,923	3,564
12:00-12:59	3,799	4,005	3,746
13:00-13:59	3,917	3,849	3,535
14:00-14:59	4,322	3,733	3,540
15:00-15:59	5,100	3,697	3,570
16:00-16:59	5,868	3,550	3,421
17:00-17:59	5,180	3,267	2,952
18:00-18:59	3,257	2,722	2,436
19:00-19:59	2,224	2,129	1,886
20:00-20:59	1,813	1,777	1,358
21:00-21:59	1,383	1,574	944
22:00-22:59	930	1,175	594
23:00-23:59	554	800	378
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

High Volume Hour Calculations

D

Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	382	566	592
01:00-01:59	294	371	370
02:00-02:59	298	326	310
03:00-03:59	448	336	227
04:00-04:59	1,049	470	283
05:00-05:59	2,354	814	507
06:00-06:59	4,404	1,298	713
07:00-07:59	6,226	2,105	1,231
08:00-08:59	4,598	2,983	1,931
09:00-09:59	3,937	3,838	2,980
10:00-10:59	4,071	4,539	3,890
11:00-11:59	4,408	4,771	4,334
12:00-12:59	4,620	4,871	4,555
13:00-13:59	4,763	4,680	4,298
14:00-14:59	5,255	4,539	4,305
15:00-15:59	6,201	4,496	4,341
16:00-16:59	7,135	4,317	4,160
17:00-17:59	6,298	3,972	3,589
18:00-18:59	3,961	3,310	2,962
19:00-19:59	2,705	2,589	2,293
20:00-20:59	2,205	2,161	1,652
21:00-21:59	1,682	1,914	1,148
22:00-22:59	1,131	1,428	723
23:00-23:59	674	973	460
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	325,250	50,712	42,642	418,604
				0%

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	129,305	0	0	129,305
Total Volume	395,500	61,665	51,852	509,017
				25%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.3%	47%	28%
3.4%	34%	22%
6.1%	29%	16%
8.3%	32%	19%
5.8%	63%	41%
4.9%	94%	73%
5.0%	108%	91%
5.4%	107%	96%
5.6%	103%	95%
5.8%	96%	88%
6.5%	83%	80%
7.7%	71%	69%
9.1%	58%	57%
8.0%	61%	57%
4.8%	86%	79%
3.2%	100%	92%
2.6%	104%	83%
2.1%	121%	76%
1.5%	134%	68%
0.9%	146%	75%

2048 Build Conditions

Segment	8a
Target AADT	62,000

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00	00:59	320	484	518
01:00	01:59	241	317	335
02:00	02:59	254	291	283
03:00	03:59	366	279	201
04:00	04:59	834	389	237
05:00	05:59	2,082	712	449
06:00	06:59	3,792	1,087	625
07:00	07:59	5,146	1,646	957
08:00	08:59	3,568	2,244	1,463
09:00	09:59	3,062	2,864	2,234
10:00	10:59	3,098	3,352	2,815
11:00	11:59	3,322	3,555	3,186
12:00	12:59	3,486	3,588	3,323
13:00	13:59	3,626	3,464	3,196
14:00	14:59	4,051	3,374	3,229
15:00	15:59	4,756	3,363	3,287
16:00	16:59	5,655	3,263	3,198
17:00	17:59	4,974	3,054	2,844
18:00	18:59	2,968	2,546	2,355
19:00	19:59	1,987	1,983	1,822
20:00	20:59	1,634	1,695	1,361
21:00	21:59	1,287	1,555	973
22:00	22:59	919	1,230	624
23:00	23:59	571	834	426
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	0	0	0	0
Total Volume	310,000	47,169	39,939	397,108
				0%

2048 Build Conditions

Segment	8b
Target AADT	71,350

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00	00:59	369	558	596
01:00	01:59	277	365	385
02:00	02:59	292	335	326
03:00	03:59	421	321	231
04:00	04:59	960	448	272
05:00	05:59	2,396	819	516
06:00	06:59	4,364	1,251	719
07:00	07:59	5,922	1,894	1,101
08:00	08:59	4,106	2,582	1,684
09:00	09:59	3,524	3,296	2,571
10:00	10:59	3,565	3,857	3,240
11:00	11:59	3,823	4,091	3,667
12:00	12:59	4,012	4,129	3,824
13:00	13:59	4,173	3,987	3,677
14:00	14:59	4,662	3,883	3,716
15:00	15:59	5,473	3,870	3,783
16:00	16:59	6,508	3,755	3,681
17:00	17:59	5,724	3,514	3,273
18:00	18:59	3,416	2,930	2,710
19:00	19:59	2,287	2,282	2,097
20:00	20:59	1,880	1,950	1,566
21:00	21:59	1,481	1,789	1,119
22:00	22:59	1,057	1,416	718
23:00	23:59	658	959	490
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	32,539	0	0	32,539
Total Volume	356,750	54,282	45,962	456,994
				7%

2048 Build Conditions

Segment	8c
Target AADT	89,050

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00	00:59	460	696	743
01:00	01:59	346	455	481
02:00	02:59	364	419	406
03:00	03:59	525	401	288
04:00	04:59	1,198	559	340
05:00	05:59	2,991	1,022	644
06:00	06:59	5,447	1,562	897
07:00	07:59	7,392	2,363	1,374
08:00	08:59	5,125	3,222	2,101
09:00	09:59	4,398	4,114	3,209
10:00	10:59	4,449	4,814	4,043
11:00	11:59	4,772	5,106	4,576
12:00	12:59	5,007	5,154	4,773
13:00	13:59	5,208	4,976	4,590
14:00	14:59	5,819	4,847	4,637
15:00	15:59	6,831	4,830	4,722
16:00	16:59	8,122	4,686	4,594
17:00	17:59	7,144	4,386	4,085
18:00	18:59	4,263	3,657	3,383
19:00	19:59	2,854	2,849	2,618
20:00	20:59	2,347	2,434	1,954
21:00	21:59	1,848	2,233	1,397
22:00	22:59	1,320	1,767	896
23:00	23:59	821	1,197	612
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	147,442	0	0	147,442
Total Volume	445,250	67,748	57,363	570,362
				26%

2048 Build Conditions

Segment	8d
Target AADT	82,550

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00	00:59	426	645	689
01:00	01:59	321	422	446
02:00	02:59	338	388	377
03:00	03:59	487	372	267
04:00	04:59	1,110	518	315
05:00	05:59	2,773	947	597
06:00	06:59	5,049	1,448	832
07:00	07:59	6,852	2,191	1,274
08:00	08:59	4,751	2,987	1,948
09:00	09:59	4,077	3,814	2,975
10:00	10:59	4,125	4,463	3,748
11:00	11:59	4,423	4,733	4,242
12:00	12:59	4,642	4,778	4,425
13:00	13:59	4,828	4,612	4,255
14:00	14:59	5,394	4,493	4,299
15:00	15:59	6,332	4,478	4,377
16:00	16:59	7,529	4,344	4,258
17:00	17:59	6,623	4,066	3,787
18:00	18:59	3,952	3,390	3,136
19:00	19:59	2,646	2,641	2,427
20:00	20:59	2,175	2,256	1,812
21:00	21:59	1,713	2,070	1,295
22:00	22:59	1,223	1,638	830
23:00	23:59	761	1,110	567
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	136,680	0	0	136,680
Total Volume	412,750	62,803	53,176	528,730
				26%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	151%	162%
0.4%	132%	139%
0.4%	115%	112%
0.6%	76%	55%
1.2%	47%	28%
3.4%	34%	22%
6.4%	29%	16%
8.4%	32%	19%
5.9%	63%	41%
4.9%	94%	73%
4.8%	108%	91%
5.3%	107%	96%
5.4%	103%	95%
5.4%	96%	88%
6.2%	83%	80%
7.3%	71%	69%
9.2%	58%	57%
8.4%	61%	57%
4.9%	86%	79%
3.3%	100%	92%
3.0%	104%	83%
2.4%	121%	76%
1.5%	134%	68%
0.9%	146%	75%
	Trends from ATR 440103	

2048 Build Conditions

Segment	9a
Target AADT	75,400

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	217	328	350	
01:00-01:59	295	389	411	
02:00-02:59	283	325	315	
03:00-03:59	442	337	243	
04:00-04:59	929	433	263	
05:00-05:59	2,592	886	558	
06:00-06:59	4,801	1,376	791	
07:00-07:59	6,364	2,035	1,183	
08:00-08:59	4,424	2,782	1,814	
09:00-09:59	3,702	3,463	2,701	
10:00-10:59	3,654	3,954	3,321	
11:00-11:59	3,963	4,240	3,800	
12:00-12:59	4,034	4,152	3,846	
13:00-13:59	4,089	3,906	3,603	
14:00-14:59	4,670	3,889	3,721	
15:00-15:59	5,519	3,903	3,815	
16:00-16:59	6,966	4,019	3,940	
17:00-17:59	6,350	3,899	3,632	
18:00-18:59	3,708	3,181	2,942	
19:00-19:59	2,520	2,515	2,311	
20:00-20:59	2,233	2,316	1,860	
21:00-21:59	1,836	2,219	1,388	
22:00-22:59	1,149	1,538	780	
23:00-23:59	660	963	492	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	98,403	0	0	98,403
Total Volume	377,000	57,049	48,080	482,129
				20%

2048 Build Conditions

Segment	9b
Target AADT	79,050

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	227	344	367	
01:00-01:59	310	408	431	
02:00-02:59	296	341	331	
03:00-03:59	464	354	254	
04:00-04:59	974	454	276	
05:00-05:59	2,717	929	585	
06:00-06:59	5,034	1,443	829	
07:00-07:59	6,672	2,133	1,240	
08:00-08:59	4,638	2,916	1,902	
09:00-09:59	3,881	3,630	2,832	
10:00-10:59	3,831	4,145	3,482	
11:00-11:59	4,155	4,446	3,984	
12:00-12:59	4,230	4,353	4,032	
13:00-13:59	4,287	4,095	3,778	
14:00-14:59	4,896	4,078	3,902	
15:00-15:59	5,786	4,092	3,999	
16:00-16:59	7,304	4,214	4,131	
17:00-17:59	6,658	4,087	3,807	
18:00-18:59	3,888	3,335	3,084	
19:00-19:59	2,642	2,637	2,423	
20:00-20:59	2,341	2,428	1,950	
21:00-21:59	1,925	2,326	1,455	
22:00-22:59	1,204	1,612	817	
23:00-23:59	692	1,010	516	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	103,167	0	0	103,167
Total Volume	395,250	59,810	50,408	505,468
				20%

2048 Build Conditions

Segment	9c
Target AADT	83,650

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	240	364	389	
01:00-01:59	328	431	456	
02:00-02:59	314	361	350	
03:00-03:59	491	374	269	
04:00-04:59	1,030	481	292	
05:00-05:59	2,875	983	619	
06:00-06:59	5,327	1,527	877	
07:00-07:59	7,060	2,258	1,312	
08:00-08:59	4,908	3,086	2,012	
09:00-09:59	4,107	3,842	2,996	
10:00-10:59	4,054	4,386	3,684	
11:00-11:59	4,396	4,704	4,216	
12:00-12:59	4,476	4,607	4,267	
13:00-13:59	4,536	4,334	3,997	
14:00-14:59	5,181	4,315	4,129	
15:00-15:59	6,123	4,330	4,232	
16:00-16:59	7,729	4,459	4,371	
17:00-17:59	7,045	4,325	4,029	
18:00-18:59	4,114	3,529	3,264	
19:00-19:59	2,796	2,790	2,564	
20:00-20:59	2,477	2,570	2,063	
21:00-21:59	2,037	2,461	1,540	
22:00-22:59	1,274	1,706	865	
23:00-23:59	732	1,069	546	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	139,783	0	0	139,783
Total Volume	418,250	63,291	53,341	534,882
				26%

2048 Build Conditions

Segment	9d
Target AADT	78,150

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	225	340	363	
01:00-01:59	306	403	426	
02:00-02:59	293	337	327	
03:00-03:59	458	350	251	
04:00-04:59	963	449	273	
05:00-05:59	2,686	918	579	
06:00-06:59	4,976	1,427	819	
07:00-07:59	6,596	2,109	1,226	
08:00-08:59	4,585	2,883	1,880	
09:00-09:59	3,837	3,589	2,799	
10:00-10:59	3,788	4,098	3,442	
11:00-11:59	4,107	4,395	3,939	
12:00-12:59	4,182	4,304	3,986	
13:00-13:59	4,238	4,049	3,735	
14:00-14:59	4,840	4,031	3,857	
15:00-15:59	5,720	4,045	3,954	
16:00-16:59	7,220	4,166	4,084	
17:00-17:59	6,582	4,041	3,764	
18:00-18:59	3,843	3,297	3,049	
19:00-19:59	2,612	2,607	2,395	
20:00-20:59	2,314	2,401	1,928	
21:00-21:59	1,903	2,300	1,439	
22:00-22:59	1,190	1,594	808	
23:00-23:59	684	999	510	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	101,992	0	0	101,992
Total Volume	390,750	59,129	49,834	499,713
				20%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.3%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.5%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.6%	28%	16%
9.1%	32%	19%
6.0%	65%	43%
5.2%	97%	78%
4.7%	112%	101%
5.0%	112%	106%
5.2%	109%	104%
5.5%	102%	98%
6.3%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.6%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.7%	111%	85%
2.1%	131%	75%
1.4%	144%	69%
0.8%	155%	74%

*Trends from ATR 050001

2048 Build Conditions

Segment	10a
Target AADT	72,350

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	187	301	325	
01:00-01:59	283	400	414	
02:00-02:59	286	335	318	
03:00-03:59	387	303	227	
04:00-04:59	906	444	278	
05:00-05:59	2,377	783	480	
06:00-06:59	4,750	1,349	770	
07:00-07:59	6,587	2,126	1,222	
08:00-08:59	4,375	2,858	1,873	
09:00-09:59	3,752	3,653	2,932	
10:00-10:59	3,432	3,839	3,462	
11:00-11:59	3,633	4,081	3,839	
12:00-12:59	3,768	4,117	3,937	
13:00-13:59	3,973	4,044	3,889	
14:00-14:59	4,527	4,020	3,964	
15:00-15:59	5,329	3,965	3,953	
16:00-16:59	6,782	3,963	3,879	
17:00-17:59	6,251	3,931	3,576	
18:00-18:59	3,369	3,058	2,805	
19:00-19:59	2,309	2,447	2,246	
20:00-20:59	1,972	2,191	1,682	
21:00-21:59	1,537	2,010	1,160	
22:00-22:59	999	1,436	687	
23:00-23:59	577	892	426	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	98,102	0	0	98,102
Total Volume	361,750	56,546	48,341	466,637
				21%

2048 Build Conditions

Segment	10b
Target AADT	75,050

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	194	312	337	
01:00-01:59	293	415	430	
02:00-02:59	297	348	330	
03:00-03:59	401	314	235	
04:00-04:59	940	460	289	
05:00-05:59	2,466	812	498	
06:00-06:59	4,927	1,399	798	
07:00-07:59	6,833	2,205	1,267	
08:00-08:59	4,538	2,964	1,943	
09:00-09:59	3,892	3,789	3,041	
10:00-10:59	3,560	3,982	3,591	
11:00-11:59	3,769	4,233	3,982	
12:00-12:59	3,908	4,271	4,084	
13:00-13:59	4,122	4,195	4,034	
14:00-14:59	4,696	4,170	4,112	
15:00-15:59	5,528	4,113	4,100	
16:00-16:59	7,035	4,111	4,024	
17:00-17:59	6,485	4,077	3,709	
18:00-18:59	3,495	3,172	2,909	
19:00-19:59	2,395	2,538	2,329	
20:00-20:59	2,046	2,273	1,745	
21:00-21:59	1,594	2,085	1,203	
22:00-22:59	1,036	1,489	713	
23:00-23:59	598	926	442	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	101,763	0	0	101,763
Total Volume	375,250	58,656	50,145	484,051
				21%

2048 Build Conditions

Segment	10c
Target AADT	77,250

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	200	321	347	
01:00-01:59	302	427	442	
02:00-02:59	305	358	340	
03:00-03:59	413	323	242	
04:00-04:59	968	474	297	
05:00-05:59	2,538	836	512	
06:00-06:59	5,072	1,440	822	
07:00-07:59	7,034	2,270	1,305	
08:00-08:59	4,672	3,051	2,000	
09:00-09:59	4,006	3,901	3,130	
10:00-10:59	3,664	4,099	3,697	
11:00-11:59	3,879	4,358	4,099	
12:00-12:59	4,023	4,396	4,204	
13:00-13:59	4,243	4,318	4,152	
14:00-14:59	4,834	4,292	4,232	
15:00-15:59	5,690	4,234	4,220	
16:00-16:59	7,241	4,232	4,142	
17:00-17:59	6,675	4,197	3,818	
18:00-18:59	3,598	3,265	2,994	
19:00-19:59	2,465	2,613	2,398	
20:00-20:59	2,106	2,339	1,796	
21:00-21:59	1,641	2,146	1,238	
22:00-22:59	1,067	1,533	734	
23:00-23:59	616	953	455	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	104,746	0	0	104,746
Total Volume	386,250	60,375	51,615	498,240
				21%

2048 Build Conditions

Segment	10d
Target AADT	71,500

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays	
00:00-00:59	185	298	321	
01:00-01:59	279	395	410	
02:00-02:59	283	332	315	
03:00-03:59	382	299	224	
04:00-04:59	896	439	275	
05:00-05:59	2,349	773	474	
06:00-06:59	4,694	1,333	761	
07:00-07:59	6,510	2,101	1,207	
08:00-08:59	4,324	2,824	1,851	
09:00-09:59	3,708	3,610	2,897	
10:00-10:59	3,391	3,794	3,421	
11:00-11:59	3,591	4,033	3,794	
12:00-12:59	3,724	4,069	3,891	
13:00-13:59	3,927	3,997	3,843	
14:00-14:59	4,474	3,972	3,917	
15:00-15:59	5,266	3,919	3,906	
16:00-16:59	6,702	3,917	3,833	
17:00-17:59	6,178	3,884	3,534	
18:00-18:59	3,330	3,022	2,772	
19:00-19:59	2,282	2,418	2,219	
20:00-20:59	1,949	2,165	1,662	
21:00-21:59	1,519	1,987	1,146	
22:00-22:59	987	1,419	679	
23:00-23:59	570	882	421	
Formulas	AADT x A	B X D	C X D	

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	96,949	0	0	96,949
Total Volume	357,500	55,881	47,773	461,154
				21%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend*	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.2%	49%	31%
3.4%	33%	20%
6.5%	28%	16%
8.8%	32%	19%
6.0%	65%	43%
5.0%	97%	78%
4.9%	112%	101%
5.0%	112%	106%
5.1%	109%	104%
5.2%	102%	98%
6.0%	89%	88%
7.4%	74%	74%
9.4%	58%	57%
8.5%	63%	57%
4.9%	91%	83%
3.3%	106%	97%
2.9%	111%	85%
2.4%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

*Trends from ATR 050001

2048 Build Conditions

Segment	11a
Target AADT	65,600

High Volume Hour Calculations

Hour	Mon-Fri (D)	Saturdays	Sundays
Formulas	AADT x A	B X D	C X D
00:00-00:59	359	570	614
01:00-01:59	243	344	357
02:00-02:59	237	278	264
03:00-03:59	369	289	216
04:00-04:59	775	380	238
05:00-05:59	2,225	733	449
06:00-06:59	4,259	1,210	690
07:00-07:59	5,742	1,853	1,065
08:00-08:59	3,925	2,564	1,680
09:00-09:59	3,279	3,193	2,562
10:00-10:59	3,187	3,565	3,215
11:00-11:59	3,305	3,712	3,492
12:00-12:59	3,328	3,637	3,478
13:00-13:59	3,415	3,476	3,342
14:00-14:59	3,960	3,516	3,467
15:00-15:59	4,885	3,635	3,624
16:00-16:59	6,155	3,597	3,521
17:00-17:59	5,575	3,505	3,189
18:00-18:59	3,201	2,905	2,664
19:00-19:59	2,161	2,290	2,102
20:00-20:59	1,911	2,122	1,630
21:00-21:59	1,579	2,065	1,191
22:00-22:59	970	1,395	667
23:00-23:59	558	863	412

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	30,777	0	0	30,777
Total Volume	328,000	51,697	44,130	423,826
				7%

2048 Build Conditions

Segment	11b
Target AADT	69,950

High Volume Hour Calculations

Hour	Mon-Fri (D)	Saturdays	Sundays
Formulas	AADT x A	B X D	C X D
00:00-00:59	378	608	655
01:00-01:59	259	367	380
02:00-02:59	253	297	281
03:00-03:59	393	308	231
04:00-04:59	826	405	254
05:00-05:59	2,373	781	479
06:00-06:59	4,541	1,290	736
07:00-07:59	6,123	1,976	1,136
08:00-08:59	4,185	2,734	1,791
09:00-09:59	3,497	3,404	2,732
10:00-10:59	3,398	3,801	3,428
11:00-11:59	3,524	3,959	3,724
12:00-12:59	3,549	3,878	3,708
13:00-13:59	3,642	3,706	3,564
14:00-14:59	4,222	3,749	3,697
15:00-15:59	5,209	3,876	3,864
16:00-16:59	6,563	3,836	3,754
17:00-17:59	5,944	3,737	3,400
18:00-18:59	3,413	3,098	2,841
19:00-19:59	2,305	2,442	2,241
20:00-20:59	2,037	2,263	1,738
21:00-21:59	1,683	2,202	1,270
22:00-22:59	1,035	1,487	712
23:00-23:59	595	920	439

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	63,433	0	0	63,433
Total Volume	349,750	55,125	47,056	451,930
				14%

2048 Build Conditions

Segment	11c & e
Target AADT	74,500

High Volume Hour Calculations

Hour	Mon-Fri (D)	Saturdays	Sundays
Formulas	AADT x A	B X D	C X D
00:00-00:59	403	647	698
01:00-01:59	276	391	405
02:00-02:59	269	316	300
03:00-03:59	419	328	246
04:00-04:59	880	431	270
05:00-05:59	2,527	832	510
06:00-06:59	4,837	1,374	784
07:00-07:59	6,521	2,105	1,210
08:00-08:59	4,458	2,911	1,908
09:00-09:59	3,724	3,626	2,910
10:00-10:59	3,619	4,049	3,651
11:00-11:59	3,753	4,216	3,966
12:00-12:59	3,780	4,130	3,950
13:00-13:59	3,878	3,947	3,796
14:00-14:59	4,497	3,992	3,937
15:00-15:59	5,548	4,128	4,115
16:00-16:59	6,990	4,086	3,998
17:00-17:59	6,331	3,981	3,621
18:00-18:59	3,635	3,299	3,026
19:00-19:59	2,455	2,601	2,387
20:00-20:59	2,170	2,410	1,851
21:00-21:59	1,793	2,346	1,353
22:00-22:59	1,102	1,584	758
23:00-23:59	634	980	468

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	99,214	0	0	99,214
Total Volume	372,500	58,710	50,117	481,327
				21%

2048 Build Conditions

Segment	11d
Target AADT	74,350

High Volume Hour Calculations

Hour	Mon-Fri (D)	Saturdays	Sundays
Formulas	AADT x A	B X D	C X D
00:00-00:59	402	646	696
01:00-01:59	276	390	404
02:00-02:59	269	315	299
03:00-03:59	418	327	245
04:00-04:59	878	430	270
05:00-05:59	2,522	830	509
06:00-06:59	4,827	1,371	782
07:00-07:59	6,508	2,100	1,207
08:00-08:59	4,449	2,906	1,904
09:00-09:59	3,717	3,618	2,904
10:00-10:59	3,612	4,041	3,644
11:00-11:59	3,746	4,208	3,958
12:00-12:59	3,772	4,122	3,942
13:00-13:59	3,871	3,939	3,788
14:00-14:59	4,488	3,984	3,929
15:00-15:59	5,537	4,120	4,107
16:00-16:59	6,976	4,077	3,990
17:00-17:59	6,318	3,973	3,614
18:00-18:59	3,628	3,293	3,020
19:00-19:59	2,450	2,596	2,382
20:00-20:59	2,165	2,406	1,847
21:00-21:59	1,789	2,341	1,350
22:00-22:59	1,100	1,581	757
23:00-23:59	632	978	467

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	99,014	0	0	99,014
Total Volume	371,750	58,592	50,016	480,358
				21%

2048 Build Conditions

Segment	11f
Target AADT	72,700

High Volume Hour Calculations

Hour	Mon-Fri (D)	Saturdays	Sundays
Formulas	AADT x A	B X D	C X D
00:00-00:59	393	631	681
01:00-01:59	270	382	395
02:00-02:59	263	308	292
03:00-03:59	409	320	240
04:00-04:59	859	421	264
05:00-05:59	2,466	812	498
06:00-06:59	4,720	1,340	765
07:00-07:59	6,364	2,054	1,180
08:00-08:59	4,350	2,841	1,862
09:00-09:59	3,634	3,538	2,839
10:00-10:59	3,532	3,951	3,563
11:00-11:59	3,663	4,114	3,870
12:00-12:59	3,689	4,030	3,854
13:00-13:59	3,785	3,852	3,704
14:00-14:59	4,388	3,896	3,842
15:00-15:59	5,414	4,028	4,016
16:00-16:59	6,822	3,987	3,902
17:00-17:59	6,178	3,884	3,534
18:00-18:59	3,548	3,220	2,953
19:00-19:59	2,395	2,538	2,330
20:00-20:59	2,117	2,352	1,806
21:00-21:59	1,750	2,289	1,320
22:00-22:59	1,075	1,546	740
23:00-23:59	618	957	456

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	96,816	0	0	96,816
Total Volume	363,500	57,292	48,906	469,698
				21%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	161%	173%
0.4%	141%	147%
0.4%	117%	111%
0.6%	78%	59%
1.3%	49%	31%
3.3%	33%	20%
6.3%	28%	16%
8.7%	32%	19%
5.8%	65%	43%
4.9%	97%	78%
4.9%	112%	101%
5.2%	112%	106%
5.4%	109%	104%
5.6%	102%	98%
6.3%	89%	88%
7.6%	74%	74%
9.5%	58%	57%
8.2%	63%	57%
4.7%	91%	83%
3.2%	106%	97%
2.6%	111%	85%
2.1%	131%	75%
1.5%	144%	69%
0.9%	155%	74%

2048 Build Conditions

Segment	12a
Target AADT	70,200

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00-00:59		347	558	601
01:00-01:59		267	377	391
02:00-02:59		290	340	323
03:00-03:59		405	318	238
04:00-04:59		913	447	280
05:00-05:59		2,296	756	463
06:00-06:59		4,441	1,261	720
07:00-07:59		6,096	1,967	1,131
08:00-08:59		4,093	2,674	1,752
09:00-09:59		3,458	3,367	2,702
10:00-10:59		3,438	3,845	3,468
11:00-11:59		3,626	4,073	3,832
12:00-12:59		3,779	4,129	3,949
13:00-13:59		3,924	3,993	3,840
14:00-14:59		4,442	3,944	3,889
15:00-15:59		5,352	3,982	3,970
16:00-16:59		6,686	3,908	3,824
17:00-17:59		5,771	3,629	3,301
18:00-18:59		3,329	3,021	2,771
19:00-19:59		2,215	2,347	2,154
20:00-20:59		1,844	2,048	1,573
21:00-21:59		1,487	1,945	1,122
22:00-22:59		1,050	1,509	722
23:00-23:59		651	1,007	481
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	63,910	0	0	63,910
Total Volume	351,000	55,446	47,496	453,942
				14%

2048 Build Conditions

Segment	12b
Target AADT	74,150

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00-00:59		367	589	635
01:00-01:59		282	399	413
02:00-02:59		306	359	341
03:00-03:59		428	335	251
04:00-04:59		964	472	296
05:00-05:59		2,425	798	489
06:00-06:59		4,691	1,332	760
07:00-07:59		6,439	2,078	1,194
08:00-08:59		4,324	2,824	1,851
09:00-09:59		3,653	3,557	2,854
10:00-10:59		3,631	4,062	3,663
11:00-11:59		3,830	4,302	4,047
12:00-12:59		3,992	4,362	4,171
13:00-13:59		4,144	4,218	4,056
14:00-14:59		4,692	4,166	4,108
15:00-15:59		5,653	4,206	4,193
16:00-16:59		7,062	4,127	4,039
17:00-17:59		6,096	3,833	3,487
18:00-18:59		3,516	3,191	2,927
19:00-19:59		2,340	2,479	2,275
20:00-20:59		1,948	2,164	1,661
21:00-21:59		1,570	2,054	1,185
22:00-22:59		1,109	1,594	763
23:00-23:59		688	1,064	508
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	97,986	0	0	97,986
Total Volume	370,750	58,566	50,168	479,484
				20%

2048 Build Conditions

Segment	12c
Target AADT	77,950

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00-00:59		385	619	668
01:00-01:59		296	419	434
02:00-02:59		322	377	358
03:00-03:59		450	353	264
04:00-04:59		1,014	496	311
05:00-05:59		2,549	839	514
06:00-06:59		4,932	1,401	799
07:00-07:59		6,769	2,185	1,255
08:00-08:59		4,545	2,969	1,945
09:00-09:59		3,840	3,739	3,000
10:00-10:59		3,817	4,270	3,851
11:00-11:59		4,026	4,523	4,255
12:00-12:59		4,196	4,585	4,385
13:00-13:59		4,357	4,434	4,264
14:00-14:59		4,932	4,379	4,318
15:00-15:59		5,943	4,422	4,408
16:00-16:59		7,424	4,339	4,246
17:00-17:59		6,408	4,029	3,666
18:00-18:59		3,696	3,354	3,077
19:00-19:59		2,460	2,606	2,392
20:00-20:59		2,048	2,275	1,746
21:00-21:59		1,651	2,160	1,246
22:00-22:59		1,166	1,676	802
23:00-23:59		723	1,119	534
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	103,007	0	0	103,007
Total Volume	389,750	61,567	52,739	504,056
				20%

2048 Build Conditions

Segment	12d
Target AADT	75,400

High Volume Hour Calculations

		D		
Hour		Mon-Fri	Saturdays	Sundays
00:00-00:59		373	599	646
01:00-01:59		286	405	420
02:00-02:59		311	365	346
03:00-03:59		435	341	255
04:00-04:59		980	480	301
05:00-05:59		2,466	812	498
06:00-06:59		4,770	1,355	773
07:00-07:59		6,548	2,113	1,214
08:00-08:59		4,397	2,872	1,882
09:00-09:59		3,715	3,617	2,902
10:00-10:59		3,692	4,130	3,725
11:00-11:59		3,895	4,375	4,115
12:00-12:59		4,059	4,435	4,241
13:00-13:59		4,214	4,289	4,125
14:00-14:59		4,771	4,236	4,177
15:00-15:59		5,748	4,277	4,264
16:00-16:59		7,181	4,197	4,107
17:00-17:59		6,199	3,897	3,546
18:00-18:59		3,575	3,245	2,976
19:00-19:59		2,379	2,521	2,314
20:00-20:59		1,981	2,200	1,689
21:00-21:59		1,597	2,089	1,205
22:00-22:59		1,128	1,621	776
23:00-23:59		699	1,082	516
Formulas		*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	99,637	0	0	99,637
Total Volume	377,000	59,553	51,014	487,567
				20%

I-41 IHSDM Analysis (Long-Term Build)

High-Volume Hours Development

July 2019 (Draft)

2048 Build Conditions

Segment	13a
Target AADT	72,050

2048 Build Conditions

Segment	13b
Target AADT	76,750

2048 Build Conditions

Segment	13c
Target AADT	80,950

Relationships

A	B	C
Weekday	Weekday vs. Weekend	
% of Daily	Sat vs. M-F	Sun vs. M-F
0.5%	165%	185%
0.4%	144%	151%
0.4%	119%	113%
0.6%	78%	58%
1.3%	50%	31%
3.3%	32%	20%
6.2%	28%	16%
8.6%	32%	18%
5.9%	64%	41%
5.0%	96%	77%
4.9%	111%	100%
5.2%	111%	106%
5.4%	108%	103%
5.6%	101%	97%
6.4%	88%	86%
7.6%	74%	73%
9.4%	59%	57%
8.1%	64%	57%
4.8%	89%	81%
3.2%	105%	95%
2.7%	110%	83%
2.1%	130%	74%
1.5%	144%	70%
0.9%	156%	74%

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	344	569	635
01:00-01:59	267	384	403
02:00-02:59	290	346	329
03:00-03:59	411	321	240
04:00-04:59	942	475	296
05:00-05:59	2,368	770	468
06:00-06:59	4,484	1,270	728
07:00-07:59	6,201	1,999	1,142
08:00-08:59	4,223	2,718	1,741
09:00-09:59	3,572	3,442	2,751
10:00-10:59	3,554	3,932	3,538
11:00-11:59	3,738	4,158	3,958
12:00-12:59	3,903	4,225	4,039
13:00-13:59	4,054	4,089	3,915
14:00-14:59	4,590	4,054	3,960
15:00-15:59	5,504	4,091	4,007
16:00-16:59	6,804	3,996	3,855
17:00-17:59	5,838	3,720	3,323
18:00-18:59	3,484	3,104	2,829
19:00-19:59	2,321	2,428	2,208
20:00-20:59	1,910	2,103	1,586
21:00-21:59	1,534	1,992	1,132
22:00-22:59	1,066	1,540	743
23:00-23:59	651	1,017	481
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	65,022	0	0	65,022
Total Volume	360,250	56,743	48,308	465,301
				14%

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	366	606	677
01:00-01:59	284	409	430
02:00-02:59	309	368	350
03:00-03:59	438	342	256
04:00-04:59	1,003	506	315
05:00-05:59	2,523	820	498
06:00-06:59	4,777	1,353	776
07:00-07:59	6,605	2,130	1,216
08:00-08:59	4,499	2,895	1,854
09:00-09:59	3,805	3,666	2,930
10:00-10:59	3,785	4,189	3,769
11:00-11:59	3,982	4,429	4,216
12:00-12:59	4,158	4,500	4,302
13:00-13:59	4,319	4,356	4,171
14:00-14:59	4,889	4,319	4,218
15:00-15:59	5,863	4,357	4,269
16:00-16:59	7,248	4,257	4,106
17:00-17:59	6,218	3,962	3,540
18:00-18:59	3,711	3,306	3,014
19:00-19:59	2,472	2,587	2,352
20:00-20:59	2,034	2,240	1,690
21:00-21:59	1,634	2,122	1,206
22:00-22:59	1,136	1,641	791
23:00-23:59	693	1,084	512
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	100,355	0	0	100,355
Total Volume	383,750	60,444	51,459	495,654
				20%

High Volume Hour Calculations

		D		
Hour	Mon-Fri	Saturdays	Sundays
00:00-00:59	386	639	714
01:00-01:59	300	432	453
02:00-02:59	325	388	369
03:00-03:59	462	361	270
04:00-04:59	1,058	533	333
05:00-05:59	2,661	865	525
06:00-06:59	5,038	1,427	818
07:00-07:59	6,966	2,246	1,283
08:00-08:59	4,745	3,054	1,956
09:00-09:59	4,013	3,867	3,091
10:00-10:59	3,993	4,418	3,976
11:00-11:59	4,199	4,672	4,446
12:00-12:59	4,385	4,746	4,537
13:00-13:59	4,555	4,594	4,399
14:00-14:59	5,157	4,555	4,449
15:00-15:59	6,184	4,596	4,502
16:00-16:59	7,644	4,490	4,331
17:00-17:59	6,559	4,179	3,734
18:00-18:59	3,914	3,487	3,179
19:00-19:59	2,608	2,728	2,481
20:00-20:59	2,146	2,363	1,782
21:00-21:59	1,723	2,238	1,272
22:00-22:59	1,198	1,731	835
23:00-23:59	731	1,143	540
Formulas	*AADT x A*	*B X D*	*C X D*

Note: Weekdays are multiplied by 5 to get the volume for the entire week

Percent High-Volume Calculation (6-Lanes)

				Totals
Vol in Hrs >1000 vph/ln	136,769	0	0	136,769
Total Volume	404,750	63,752	54,275	522,777
				26%

ATTACHMENT L1
INPUT COMPARISON: NO-BUILD AND LONG-TERM BUILD ALTERNATIVES

I-41 Traffic and Engineering Study

Aug 6, 2019 (Draft)

No-Build vs. Long-Term Alternative Input Comparison for IHSDM

	Segment	Limits	Stationing	Length (mi)	Geometric Inputs									
					# GP Lanes		Inside Shoulder (ft)		Outside Shoulder (ft)		Median Width[1]		Barrier	
					No-Build	Build	No-Build	Build	No-Build	Build	No-Build	Build	No-Build	Build
Outagamie County	1	South of CTH BB to STH 96	392+00 to 536+25	2.7	6	6	10	10	5 - 12	5 - 12	6	6	*Proportions of Barrier for <u>Overall Corridor</u> Shown Below for Median and Outside Shoulder*	
	2	STH 96 to North of STH 15	536+25 to 668+00	2.5	4 - 6	6	10	10 - 14	5 - 12	8 - 12	29 - 52	8.5 - 29		
	3	North of STH 15 to West of CTH E	668+00 to 800+00	2.5	4	6	4	14	4 - 10	12	52	8.5	Presence of Median Barrier:	
	4	West of CTH E to East of STH 441	800+00 to 963+20	3.1	4	6 + C-D	4	14	5 - 10	12 - 14	52	8.5 - 39	<u>I-41 NB</u> 66%	<u>I-41 NB</u> 100%
	5	East of STH 441 to West of STH 55	963+20 to 1081+70	2.2	4	6	4	14	5 - 10	12	52	8.5	<u>I-41 SB</u> 57%	<u>I-41 SB</u> 100%
	6	West of STH 55 to East of CTH J	1081+70 to 1250+80	3.2	4	6	4 - 6	14	4 - 10	12	52	8.5		
	7	East of CTH J to CTH U	1250+80 to 1410+90	3.0	4	6	4	14	4 - 10	12	53	8.5	Presence of Outside Barrier:	
Brown County	8	CTH U to South of CTH S	1410+90 to 1520+50	2.1	4	6	4	14	5 - 10	12	52	8.5	<u>I-41 NB</u> 19%	<u>I-41 NB</u> 37%
	9	South of CTH S to North of CTH S	1520+50 to 1612+70	1.8	4	6	4	13 - 14	4 - 10	12	52	8.5 - 10.2	<u>I-41 SB</u> 16%	<u>I-41 SB</u> 43%
	10	North of CTH S to South of CTH F	1612+70 to 1736+57	2.4	4	6	4	14	10	12	54	8.5		
	Totals or Ranges	**<u>Seg 1-5:</u>** South of CTH BB to West of STH 55	392+00 to 1081+70	13.1	4 - 6	6 (+C-D)	4 - 10	10 - 14	4 - 12	5 - 14	6 - 52	6 - 39	<u>Median:</u> 57 - 66%	<u>Median:</u> 100%
		<u>Seg 6-10:</u> West of STH 55 to South of CTH F	1081+70 to 1736+57	12.4	4	6	4 - 6	13 - 14	4 - 10	12	52 - 53	8.5 - 10.2	<u>Outside:</u> 16 - 19%	<u>Outside:</u> 37 - 43%

<u>Notes:</u>

[1] Median width does not affect crash calculations when median barrier is present. Median barrier is proposed throughout the corridor for the Long-Term Alternative, meaning the median width does not affect the Long-Term Alternative crash calculations.

I-41 Traffic and Engineering Study

Aug 6, 2019 (Draft)

No-Build vs. Long-Term Alternative Input Comparison for IHSDM

	Segment	Limits	Stationing	Length (mi)	Traffic Data Inputs										
					I-41 Mainline AADT Volumes				I-41 Mainline High Volume Hour Proportions				Sum of Ramp AADT Volumes		
					Traffic Data Site[2]	2028	2048		2028		2048		2028	2048	
						No-Build and Build	No-Build	Build	No-Build	Build	No-Build	Build	No-Build and Build	No-Build	Build
Outagamie County	1	South of CTH BB to STH 96	392+00 to 536+25	2.7	CTH BB to STH 125	80,100	90,600	95,100	0.19	0.19	0.25	0.30	65,050	72,500	75,400
	2	STH 96 to North of STH 15	536+25 to 668+00	2.5	STH 96 to STH 15	71,100	83,200	89,850	0.07	0.07	0.25	0.30	46,400	57,450	62,000
	3	North of STH 15 to West of CTH E	668+00 to 800+00	2.5	STH 47 to CTH E	77,750	90,600	101,550	0.68	0.20	0.79	0.31	26,750	33,800	36,350
	4	West of CTH E to East of STH 441	800+00 to 963+20	3.1	CTH E to STH 441	79,850 I-41 = 60,350 C-D = 19,500	93,400	104,850 I-41 = 79,100 C-D = 25,750	0.69	I-41 = 0.00 C-D = N/A	0.79	I-41 = 0.25 C-D = N/A	79,000	98,250	102,500
	5	East of STH 441 to West of STH 55	963+20 to 1081+70	2.2	STH 441 to CTH N	68,350	77,250	89,050	0.36	0.07	0.62	0.20	16,000	20,100	21,900
	6	West of STH 55 to East of CTH J	1081+70 to 1250+80	3.2	CTH N to STH 55	63,250	72,750	83,650	0.31	0.00	0.42	0.26	25,050	32,950	36,750
	7	East of CTH J to CTH U	1250+80 to 1410+90	3.0	CTH J to SWEF	57,900	66,000	74,500	0.26	0.00	0.31	0.21	3,350	4,850	4,600
Brown County	8	CTH U to South of CTH S	1410+90 to 1520+50	2.1	CTH U to CTH S	59,550	68,850	77,950	0.26	0.00	0.42	0.20	4,700	7,400	7,750
	9	South of CTH S to North of CTH S	1520+50 to 1612+70	1.8	At CTH S	55,400	62,950	72,050	0.26	0.00	0.31	0.14	10,950	13,950	14,800
	10	North of CTH S to South of CTH F	1612+70 to 1736+57	2.4	CTH S to CTH F	62,200	71,000	80,950	0.26	0.00	0.44	0.26	0	0	0
	Totals or Ranges	**Seg 1-5:** South of CTH BB to West of STH 55	392+00 to 1081+70	13.1	---	68,350 to 80,100	77,250 to 93,400	89,050 to 104,850	0.07 to 0.69	0.00 to 0.20	0.25 to 0.79	0.20 to 0.31	233,200	282,100	298,150
		Seg 6-10: West of STH 55 to South of CTH F	1081+70 to 1736+57	12.4	---	55,400 to 63,250	62,950 to 72,750	72,050 to 83,650	0.26 to 0.31	0.00	0.31 to 0.44	0.14 to 0.26	44,050	59,150	63,900

Notes:

[2] One representative traffic data site is reported for comparison purposes in this table. Most analysis segments contain varying traffic volumes and high-volume hour proportions.

ATTACHMENT L2
INTERCHANGE AND ARTERIAL DAILY TRAFFIC VOLUME SUMMARY

I-41 IHSDM Analysis: Interchange Ramp and Arterial AADT Volume Summary

August 2019 (Draft)

Interchange Ramp Volumes

Interchange	Ramp Terminal	Ramp Type	# Lanes	Balanced AADT Volumes			
				2018	2028 No-Build	2048 No-Build	2048 Build (+1)
CTH BB	Northbound	NB Exit	1	6,150	6,200	6,400	6,250
		NB Entrance	1	4,750	5,850	7,100	8,000
	Southbound	SB Exit	1	4,500	5,750	6,550	7,750
		SB Entrance	1	5,000	5,250	5,600	5,400
STH 125	Northbound	NB Exit	1	9,250	9,400	9,550	9,950
		NB Entrance	1	4,850	5,350	6,550	6,900
	Southbound	SB Exit	2	4,500	4,950	6,150	6,250
		SB Entrance	1	7,550	7,600	7,850	7,800
STH 96	Northbound	NB Exit	2	7,150	7,550	8,350	8,150
		NB Entrance	1	5,800	6,150	6,800	8,400
	Southbound	SB Exit	1	5,850	6,250	7,250	8,050
		SB Entrance	1	6,450	7,150	8,400	8,950
STH 15	Northbound	NB Exit	1	7,650	8,500	10,200	9,950
		NB Entrance	1	7,200	8,550	11,250	12,400
	Southbound	SB Exit	1	9,000	10,500	13,800	15,250
		SB Entrance	1	5,650	6,450	8,150	7,950
STH 47	Northbound	NB Exit	1	4,750	5,750	7,800	8,050
		NB Entrance	1	6,650	7,250	8,550	9,650
	Southbound	SB Exit	1	6,600	7,300	8,700	9,500
		SB Entrance	1	5,300	6,450	8,750	9,150
CTH E	Northbound	NB Exit	1	6,800	7,850	9,850	10,400
		NB Entrance	1	9,500	10,700	13,050	14,050
	Southbound	SB Exit	1	6,900	8,000	10,400	10,950
		SB Entrance	1	7,500	8,550	10,800	11,300
STH 441	---	NB Exit	1	11,200	12,900	16,400	17,100
		NB Entrance	1	6,950	7,300	8,400	9,350
		SB Exit	1	7,650	8,900	10,600	10,650
		SB Entrance	1	13,000	14,800	18,750	18,700
CTH N	Northbound	NB Exit	1	4,750	5,150	6,050	6,500
		NB Entrance	1	1,950	2,400	3,550	3,650
	Southbound	SB Exit	1	2,550	3,050	4,250	4,600
		SB Entrance	1	5,000	5,400	6,250	7,150
STH 55	Northbound	NB Exit	1	3,650	4,000	4,750	5,800
		NB Entrance	1	1,250	1,550	2,150	2,200
	Southbound	SB Exit	1	1,550	1,950	2,700	2,700
		SB Entrance	1	3,500	3,900	4,750	5,500
CTH J	Northbound	NB Exit	1	2,800	3,600	5,200	5,750
		NB Entrance	1	2,650	3,250	4,150	4,350
	Southbound	SB Exit	1	2,500	3,100	4,100	4,550
		SB Entrance	1	2,900	3,700	5,150	5,900
Weigh Station	---	NB Exit	1	150	150	150	150
		NB Entrance	1	150	150	150	150
CTH U	Northbound	NB Exit	1	950	1,300	2,000	1,800
		NB Entrance	1	1,650	2,300	3,700	3,950
	Southbound	SB Exit	1	1,800	2,400	3,700	3,800
		SB Entrance	1	1,350	1,750	2,550	2,500
CTH S	Northbound	NB Exit	1	1,400	1,800	2,550	2,550
		NB Entrance	1	3,200	3,600	4,300	4,700
	Southbound	SB Exit	1	2,900	3,200	3,750	4,200
		SB Entrance	1	1,850	2,350	3,350	3,350

Arterial Volumes

Arterial	Ramp Terminal	Arterial	Balanced AADT Volumes (2-way)			
			2018	2028 No-Build	2048 No-Build	2048 Build (+1)
CTH BB	Northbound	East of Int	10,400 - 13,450	11,000 - 14,250	12,150 - 15,500	15,500
		Between Ramps	13,350	14,750	16,950	17,400
	Southbound	West of Int	16,650	18,450	21,300	22,050
STH 125	Northbound	East of Int	24,800	25,500	27,250	26,150
		Between Ramps	25,500	26,550	29,050	28,700
	Southbound	West of Int	26,450	27,700	30,850	30,350
STH 96	Northbound	East of Int	29,200	30,350	32,450	32,850
		Between Ramps	29,050	30,750	33,900	35,400
	Southbound	West of Int	29,550	31,750	36,450	37,700
STH 15	Northbound	East of Int	26,900	29,250	34,150	34,000
		Between Ramps	26,450	30,000	37,200	37,950
	Southbound	West of Int	28,800	33,750	43,350	44,850
STH 47	Northbound	South of Int	20,900	22,750	26,300	26,950
		Between Ramps	20,100	23,150	29,250	30,050
	Southbound	North of Int	19,100	23,400	32,400	32,900
CTH E	Northbound	South of Int	17,850	19,100	21,700	22,500
		Between Ramps	23,350	26,650	33,100	34,850
	Southbound	North of Int	27,150	32,400	43,000	44,100
STH 441	---	South of I-41	38,800	43,900	54,150	55,800
CTH N	Northbound	South of Int	12,300	13,200	14,800	15,900
		Between Ramps	11,100	12,550	15,600	16,650
	Southbound	North of Int	8,050	10,000	13,800	14,400
STH 55	Northbound	South of Int	11,650	13,050	15,900	17,450
		Between Ramps	8,050	9,500	12,500	13,050
	Southbound	North of Int	4,500	6,150	9,450	9,050
CTH J	Northbound	South of Int	8,650	10,350	13,400	13,800
		Between Ramps	6,100	7,800	11,050	11,700
	Southbound	North of Int	5,000	7,300	11,800	12,750
Weigh Station	---	---	150	150	150	150
CTH U	Northbound	South of Int	5,350	6,700	9,350	9,800
		Between Ramps	4,150	5,300	7,650	7,650
	Southbound	North of Int	3,400	4,650	7,100	6,550
CTH S	Northbound	East of Int	4,050	5,800	9,150	9,700
		Between Ramps	4,950	6,100	8,300	8,850
	Southbound	West of Int	6,900	7,450	8,500	8,600

ATTACHMENT M
DECISION LOG DOCUMENT

I-41 Traffic and Engineering Study: Decision Log

Updated for 8/12/2019 (DRAFT)

Category	#	Question or Topic	Decision	Notes / Reasoning	Decision made through	Decision Date
Project Management	1	What data is required from NER to begin analysis?	Email to NER requesting available as-builts, crash data, traffic data. Brief plan of attack given for first 2-3 weeks of the contract.	Data request to NER to help start efforts as soon as NTP given.	Email (Bryan L, Joe U)	1/29/2019
	2	Weekly Meeting Minutes / Decision log	- WisDOT = Meeting minutes - Strand = Decision log for IHSDM analysis	Help group track weekly progress and identify best practices.	Calls/Email	3/7/2019
	3	Confirm project limits for forecasting, simulation and safety analysis	Northern limits to be placed north of CTH S	Northern limit of simulation and safety to be set north of CTH S and south of potential new access point. Forecasts to include impacts of potential new access point, but forecasts will not be completed for the new access point.	Weekly meeting / Email	3/11/2019
Schedule	1	Perform 6-lane analysis?	Yes, traffic and safety analysis should each include 6-lane alternative	From meeting discussion: Work to identify aux lane opportunities and evaluate intersections on a case-by-case basis.	Weekly meeting	3/14/2019
	2	Partial Submittals of Base IHSDM Model	- First submittal of base model to WisDOT will not include traffic volumes. - Anticipated delivery around 3/18. *Update: Submitted 3/20 to NER, 3/21 to BTO.*	Traffic data is being collected by ECWRPC and WisDOT in early March. Traffic analysis team will balance data and provide to Strand, anticipated week of 3/18. *Purpose of partial submittal is to help streamline overall review.*	Conference call	3/7/2019
	3	Peer review of future VISSIM models	Include review schedule for early June	Future baseline models submitted end of May with scenario modeling to start in July	Email (Bryan L, Jerry S, Joe U)	3/14/2019
	4	Modify schedule based on project limits, change in forecasting	Schedule updated with forecast development changes and BTO/TFS reviews	Delays due to confirming project limits and forecasting assumptions impacting schedule by 2 weeks. - Project limits confirmed for operations modeling (do not include potential Southern Arterial near CTH F) - HNTB developing peak hour and daily forecasts, TFS and others reviewing	Email (Bryan L, Jerry S, Joe U) & Meeting	4/4/2019 & 5/2/2019
Geometry Data	1	Southern Analysis Limit	Between CTH BB and US 10/STH 441	- Allows analysis to include CTH BB NB exit and SB entrance ramps. - Limit is north of recent improvements at the US 10/WIS 441 interchange	Email (Bryan L, Scott N, Joe U)	2/21/2019
	2	Northern Analysis Limit	4-lane to 6-lane expansion point (North of Orange Lane, South of CTH F)	The ~1,600' extension of limits to capture the rest of the 4-lane section in Brown County and account for potential analysis of 6-lane expansion alternative in the future. Follow-up on potential extension to CTH F covered in 3/25/2019 email between NER, BTO, and Strand (limits will remain the same as 2/14 decision).	Initial = Conference Call Follow-up = Email	2/14/2019 & 3/25/2019
	3	Aerial Imagery	Most recent aerials used for analysis: - Winnebago = 2015 (WisDOT) - Outagamie = 2018 (public) - Brown = 2017 (public)	- WisDOT provided Winnebago aerials to Strand. - Strand compiled aerials in CAD using Outagamie Co. coordinate system. - Strand forwarded CAD files/aerials to traffic analysis team.	Email (Bryan L, Joe U)	2/14/2019
	4	Should gapped rumble strip patterns have the gaps coded?	Code gapped rumble strips similar to continuous rumble strips	Each type of rumble strip would operate similarly when driving at 70 mph. The gapped rumble strips are an older design.	Conference call	2/28/2019
	5	Clear Zone	Code 30' width for entire corridor	The clear zone has no effect on crash calculations when outside barrier is present. Where no barrier was present, the clear zone appeared to be 30’ or more at the locations Strand reviewed along I-41. The assumption of 30' cancels out the clear zone calculation and fits with the goals of the interim analysis, where right-of-way is not expected to be taken. Revisit with 6-lane option at a later point, if needed.	Email (Scott N, Joe U)	3/25/2019

I-41 Traffic and Engineering Study: Decision Log

Updated for 8/12/2019 (DRAFT)

Category	#	Question or Topic	Decision	Notes / Reasoning	Decision made through	Decision Date
Geometry Data	6	Interim Alts	Initial Plan: see 5/23 email and document for potential improvements identified from previous phase. Current Plan: ties current operations analysis to previous recommendations.	Interim Alternative to be modeled includes the following: - Mainline merge extensions at 5 locations. - Interchange/Intersection improvements at STH 96, STH 15, and CTH E. *- Test of SB aux lane from STH 47 to STH 15 in IHSDM is TBD (7/11 weekly mtg)*	Alternatives Workshop Meeting, Weekly meeting	6/27/2019 7/11/2019
	7	Long-Term Alt	Initial Plan: see 5/23 email and document for potential improvements identified from previous phase. Current Plan: ties current operations analysis to previous recommendations.	Interim Alternative to be modeled includes the following: - Mainline merge extensions at 5 locations. - Interchange/Intersection improvements at STH 96, STH 15, and CTH E. *- Test of SB aux lane from STH 47 to STH 15 in IHSDM is TBD (7/11 weekly mtg)*	Alternatives Workshop Meeting, Weekly meeting	6/27/2019 7/11/2019
Traffic Data	1	Base year of traffic analysis?	Base Year = 2018	Consistent with DTIM forecast and concurrent operations analysis	Conference call	2/28/2019
	2	Is weigh station traffic data available?	Yes, provided for 2018 and 2017 through DSP on 3/13/2019	- Estimated average use from counts = 150 trucks per day (when open). - NER checked with DSP on committed improvements to help determine if weigh station could be more often if improvements are made. DSP indicated no plans to upgrade at this time (3/19/2019 email with Sergeant Diedrich).	Weekly meeting & Call with Scott N	3/14/2019 4/3/2019
	3	Type of ATR data to use estimate weekend trends?	Annual average data from 2018	- Consistent with traffic analysis base year. - Annual used for Beltline analysis where possible.	Weekly meeting	3/7/2019
	4	Limits to apply weekend trends	As shown in 3/7/2019 slideshow	Outagamie generally split by state highway. Brown has 2 ATRs, both long stretches with CTH interchanges.	Weekly meeting	3/7/2019
	5	Need for counts at various ramp terminals	ECWRPC to collect data	Access to Miovision and Walt wants to get the data	All locations provided aside from CTH U at SB I-41	3/21/2019
	6	Seasonal factors	Utilize the 2017 data	2018 data not yet available	Email from Chris C	3/8/2019
	7	Annual factors	Use geographic-specific factors from mainline ATR's to bring all counts to 2018	Some locations built out with correspondingly lower growth rates	Weekly meeting	3/14/2019
	8	K factor comparison	Based on 2017 ATR data		Email from Chris C	3/6/2019
	9	OD data	Utilize for validation of VISSIM routes	Not available for initial seeding of VISSIM	Weekly meeting	2/28/2019
	10	Estimate data for SB 41 at CTH U	HNTB to estimate 2018 counts at SB 41 and CTH U using provided ramp count data and historic (2007) turning movement data	ECWRPC collected ramp data not turning movement data, so expediting process by estimating data rather than waiting to get location recounted.	Phone discuss with Bryan Lipke	3/14/2019
	11	Approval of Balanced Base Counts	Draft comments received 3/27, addressed and resubmitted 3/29	HNTB addressed comments and resubmitted balanced counts, support documents and diagrams on 3/29	Traffic count phone/Skype meeting	3/29/2019

Category	#	Question or Topic	Decision	Notes / Reasoning	Decision made through	Decision Date
Crash Data	1	Obtain crash data beyond DTIM Limits and at intersections	NER to provide available crash data and diagrams	NER provided data beyond DTIM limits, which were STH 96 to Orange Ln, and ramp terminal intersections.	Email (Bryan L, Scott N, Joe U)	2/14/2019
	2	Analysis approach	- Focus on mainline for Empirical-Bayes (EB) analysis to start with. - Ramps and intersections may come later. Initial Interim Alt: Anticipated to use EB analysis for intersections and predictive method for potential STH 125 NB offramp improvement (single to dual) Current Interim Alt: Use EB analysis, where applicable, for intersections at STH 96, STH 15, and CTH E. Long-Term Alt: Use predictive method for analysis of I-41 capacity expansion. Focus on relative differences.	- First priority = mainline. - Ramp terminals and the areas along ramps will be evaluated case-by-case at a later time depending on the study's proposed improvements.	- Kickoff meeting - Weekly meeting (Initial Interim Alt) - Alternatives Workshop Meeting	- 2/21/2019 - 5/30/2019 - 6/27/2019
	3	Crash data location: stationing	Round to nearest 10' mark	Crash locations in police reports are approximate, entering location data into IHSDM to nearest 10' mark is appropriate.	Conference call	2/28/2019
	4	Exclude crashes from EB analysis where there have been recent improvements?	Do not exclude crashes	Review of crash reports complete focusing on recent improvements near WIS 55 (SB on, NB off) and weigh station (NB side) found no significant trends that would result in excluding crashes from EB analysis. Strand to document the analysis.	Weekly meeting	3/28/2019
	5	Have I-41 crash rates been compared to the Beltline?	No, are not planned to be compared at this time.	Walt offered to provide I-41 crash rate information that ECWRPC has calculated.	Weekly meeting	3/7/2019
	6	Include deer/animal crashes?	Analyze mainline using EB with and without deer/animal crashes.	- HSM SPFs include animal crashes. - Traditionally, WisDOT has excluded animal crashes. - WisDOT interested in comparing results (consider as a sensitivity check). - Scott Nelson provided deer listing. - 3/28 update: Review found that some locations from spreadsheet (RP coded) differed vs. actual report (police reported). Recommendation during 3/28 weekly meeting was to stick with the data provided (mostly spreadsheet-based from NER) and document the assumption. *Strand sent crash data to NER for review 3/29 and discussed further 4/3. Total crashes w/out animal = 1,667, total w/ animal = 1850 (183 total animal crashes)*	Weekly meetings	3/7/2019 & 3/28/2019
	7	Crash severity input options for IHSDM	Use FI and PDO	Options available in IHSDM include FI, KAB, or PDO. The FI and PDO categories align with SPFs for Freeways and Speed-change lanes.	Weekly meeting	3/7/2019
IHSDM Coding	1	Initial Peer Review results of base conditions	Initial submittal: Geometry only (no traffic or crash data) completed 3/20.	Review comments provided by NER and BTO on 3/26 for 3/20 geometric submittal.	Email	3/26/2019
		Peer Review results of base conditions (full submittal)	Full submittal (all inputs, geometry comments addressed): Provided to NER 4/15. Review comments rec'd 4/29.	- Full base model submitted 4/15, including evaluations of the corridor with all crashes and with vehicle-only crashes. - "Read-me" file provided with evaluation info and traffic inputs.	Email (BTO, NER, Strand)	Complete 4/29/2019
	2	Urban vs. Suburban vs. Rural	- Urban from South limit to CTH JJ - Rural from CTH JJ to Orange Lane - Urban from Orange Lane to north limit	The CTH JJ border for Urban/Rural is based on WisDOT's urbanized area map for Appleton. North of CTH JJ, WisDOT's urbanized area map identifies CTH JJ to CTH S as rural. Through follow-up with NER, rural portion north of CTH JJ was extended.	Email (Scott N, Joe U)	3/26/2019
	3	Crossroad / Ramp Terminal Coding Test	- Start with CTH E - 2nd in line = STH 15	Coding test to add in a crossroad, connect the service ramps, and create a ramp terminal intersection. Purpose is to trouble-shoot any issues that may occur. CTH E was selected as it's a good candidate for future improvements based on previous short-term improvements analysis. NER concurred with CTH E to start with.	Email (Scott N, Joe U)	3/26/2019

Category	#	Question or Topic	Decision	Notes / Reasoning	Decision made through	Decision Date
IHSDM Coding	4	Median Type Coding	Traversable vs. Non-Traversable Median	Kevin found that selecting either "Traversable Median" or "Non-Traversable Median" for the Nominal Median Type does not impact the results. IHSDM uses this field to help pre-populate the highway viewer, but as the model is changed within the editor those values get used. The team will not need to run the model twice to see the difference between the two.	Email (Kevin S, NER, Strand)	3/26/2019
	5	Offset to Median Barrier	Model as-is with V14.0	- IHSDM incorrectly calculating inside shldr-to-barrier values larger than 17 ft. - I-41: few sections over 17' - Comparison between alternatives still useful, as long as we aren't changing the distance to the median barriers. Document and monitor for expansion alts. - Kevin contacted IHSDM support team, error appears to be fixed in v14.1 (we are using v14.0). Project team will update version as needed.	Initial = Email (Kevin S, NER, Strand) Follow-up = Weekly meeting	3/26/2019 & 3/28/2019
	6	Sensitivity Testing with Base Model	- Animal Crashes - Weigh Station Traffic	- I-41 mainline will be evaluated with and without animal crashes. See Crash Data Item #6. Both evaluations will be compared against one-another and to existing crash data that was entered into the model. Differences in hot spots will be noted. - I-41 mainline will be evaluated with and without Weigh station traffic data to be analyzed with and without truck volumes. The differences in output will be documented and shared with the team. If differences are negligible, likely will stick with one volume analysis method for the rest of the project.	Weekly meeting Phone Call (Scott N, Joe U)	3/7/2019 & 4/3/2019
	7	IHSDM Version	Use V14.0	V14.1 released prior to full base conditions submittal. I-41 base model full base model submittal was in V14.1 to include latest software updates / fixes. Per 4/22 email with NER, project will go back to V14.0 to be consistent with the version WisDOT is using. Differences in output were insignificant.	Email	4/22/2019
	8	Base Model Evaluations	<u>Final Results Submitted 4/25:</u> 1) Crash Frequency Tables 2) Crash Frequency Charts 3) Top 20 Crash Rates (i.e. crash frequency/mile) and Travel Crash Rates 4) IHSDM-generated output 5) Constrained Areas (Gillett St, Railroad)	Items 1-3 are post-processed data created by Strand. The Crash Frequency output is set up to summarize the corridor from interchange to interchange, but is customizable shorter/longer limits. Item 4 is generated from IHSDM and includes segment-by-segment output along with a corridor graph. <u>Additional output to consider:</u> - Consider refined limits for crash frequency tables (e.g. 0.1 mile lengths) - Post-processing of IHSDM-generated graph - Defining direction for speed change lane segments Per 4/22 email coordination, output updated to V14.0. Results re-sent 4/25. <u>BTO and NER:</u> No further comments (4/29). Strand reply given 4/30 & 5/2.	Email	4/29/2019
	9	Base Sensitivity Results: Modeling Methodology for Future Conditions	- Use both crash data sets (Vehicle+Animal, Vehicle-Only) - Include Weigh Station Traffic	- <u>Crash Data Set:</u> Carry forward both crash data sets (Vehicle+Animal and Vehicle-only) for now. ***Crash data set to use for Safety Certification efforts is TBD.*** - <u>Weigh Station Traffic:</u> Carry forward "Weigh Station Open" volumes for all future conditions modeling. Differences were negligible with and without weigh station traffic in base conditions. The weigh station is open more often than closed.	Weekly meeting	5/2/2019

I-41 Traffic and Engineering Study: Decision Log

Updated for 8/12/2019 (DRAFT)

Category	#	Question or Topic	Decision	Notes / Reasoning	Decision made through	Decision Date
IHSDM Coding	10	Analysis Timeframe(s) for Future conditions	- No-Build (2028 to 2037 to compare with Interim) - Interim Alts (2028 to 2037). Confirmed on 5/30 based on upcoming project with May 2023 PS&E. - Long-term Alt (2028 to 2037). Confirmed with 7/30 email based on information submitted to TPC.	Draft study forecasts: - Existing = 2018, - Interim = 2028 (No-Build = Build, *see Traffic Forecasting item #3*) - Horizon year = 2048 (No-Build & Build) *Discussion from 5/9:* 2028 and 2048 No-Build inputs to be developed first for IHSDM. Build (+1) and other potential interim improvements (additional aux lanes, etc.) to be discussed at a later date. Programming of improvements could be as early as 2026. Use 2028 as anticipated interim improvement year for consistency with forecasts.	Weekly meeting Email (Long-Term)	5/9/2019 & 5/30/2019 7/30/2019
	11	Peer Review results of No-Build conditions	NER and BOT Review complete as of 6/6/2019	No-Build model and supporting materials (traffic inputs, draft results) submitted 5/28 to NER.	Weekly meeting	6/6/2019
	12	Future No-Build Sensitivity Testing: Peak Spreading	Documentation exercise only. Explain potential inputs with peak spreading included and analysis limitations.	Originated from 5/30 weekly meeting discussion. The operations analysis is handling peak spreading as a "what-if" exercise. Group discussed limitations with peak spreading in relation to IHSDM analysis. Strand to explain further in memo.	Weekly meeting	6/20/2019
	13	Peer Review results of Interim Alternative	*Initial results presented at 6/27 meeting. Revisions based on meeting decisions and internal QC complete, IHSDM models and results submitted to NER 7/19.* ***Updated one-pager results and sensitivity test submitted 7/30.***	Submittal includes test of varying high-volume hours at merge locations, reduced cross section along STH 15, and Empirical-Bayes analysis at intersections (where applicable). Preliminary results are shown with detailed summary tables and as one-pager w/ map.		Pending
	14	Peer Review Results of Long-term Alternative	IHSDM Model and supporting materials/results submitted 8-7-2019 to NER after call to discuss preliminary results.	- Include westbound C-D road from STH 441 to CTH E based on HCS operations analysis per discussion at 7/11/meeting. - IHSDM input development will be based on the previous phase of the study and any additional changes due to updated traffic operations. - Technical memo will provide more detail on assumptions/discussion covered in 7/30 email, 8/7 conference call, and 8/7 model submittal email.		Pending
Travel Demand Modeling	1	SE Input files	Coordinated with ECWRPC and WisDOT forecasting for current versions of TDM input files	Various files provided with no timestamps	Shared mapping, addressed comments during weekly meetings	3/15/2019
	2	Committed roadway improvements	Incorporate all modeled committed and planned projects except WIS 96 expansion	WIS 96 expansion is not currently anticipated	Weekly meeting	3/14/2019
	3	Scenario for forecasting	Add one lane each direction	Decision made to model future build scenario to include 8 lanes from southern limit to WIS 15, and 6 lanes from WIS 15 to northern limit. Includes new interchange between CTH S and CTH F in Brown County related to new southern river crossing.	Weekly meeting	3/28/2019
	4	No interim year forecasting	Model only 2010 and 2045	No accurate socio-economic datasets exist for interim years	Weekly meeting	3/7/2019
	5	Submit DT1601	HNTB to submit to Matt Halada	HNTB to submit with demand modeling input and output files along with balanced counts, count factors and raw traffic count data used during project	Weekly meeting	3/29/2019
	6	Develop peak hour forecasts	TFS does not provide peak hour forecasts	HNTB and TFS discussed methodology to develop peak hour traffic forecasts for use within VISSIM. HNTB to conduct forecasting analysis.	Meeting on 4/8/2019	4/8/2019

Category	#	Question or Topic	Decision	Notes / Reasoning	Decision made through	Decision Date
Travel Demand Modeling	7	Confirm Future Year Scenarios	Include Southern Arterial in future baseline	Include Southern Arterial bridge, interchange and associated improvements shown as planned in the NERTDM for future baseline and subsequent scenarios	Email from Chris C 4/11/2019	4/11/2019
Vissim Modeling	1	Version	V10	WisDOT not using V11 currently	Email (Ben R, Jason K)	3/15/2019
	2	Peer Review Results (round 1)	Base network	HNTB addressing comments, will resend networks to BTO 4/12	Weekly meeting	4/19/2019
	3	Analysis intervals	Times to be modeled in VISSIM	BTO requested VISSIM models to include one hour warm up, one hour analysis and one hour cool-down. Develop traffic demands at the 15 minute level.	Weekly meeting	3/28/2019
	4	Calibrated Base Vissim Review	HNTB to submit calibrated base VISSIM models	HNTB to send calibrated base VISSIM models to BTO 4/19 (AM and PM with network updates and volume and speed calibration)	Weekly meeting	4/19/2019
	5	Optimizing Signals	No-Build scenarios will include optimizing traffic signals	HNTB to report intersections with undesired operations with both existing signal timings and optimized signal timings.	Email confirmation	5/23/2019
	6	MOE's for scenario development	Level of service (LOS), with LOS D as acceptable for mainline and a LOS of mid-E for cross streets.	Consistent with FDM for desired LOS by roadway hierarchy.	Weekly meeting	6/6/2019
	7	Scenario development process	HNTB to use Synchro, VISSIM and HCS collectively to develop operational improvements	t	Weekly meeting	6/6/2019
	8	NoBuild peer review comments responded to	NoBuild Analysis files resubmitted 6/28/2019	Updated analysis to include HCM6 results and HCS7 results for roundabouts	Email / FTP	7/22/2019
	9	Short Term Models Submitted for Peer Review	Short Term Analysis files submitted 6/28/2019	Short term alternative was presented during the workshop (6/27/2019). Formal Results submitted for Peer Review.	Email / FTP	7/22/2019
	10	Long Term Models	HNTB to analyze the previous 2008 Recommendations	HNTB analyzed 2008 recommendations, then updated where deficiencies remained. Notable items include WIS 47 and N system interchange area.	Weekly Updates	7/25/2019
	11	Long Term Improvements	Include Long Term improvements South of EIS project limits?	Keep mainline of I-41 as 6 lanes south of WIS 15 and upgrade the existing CTH BB interchange with traditional signalized improvements in lieu of full conversion to roundabouts for VISSIM modeling purposes.	Weekly meeting	7/25/2019
	12	2048 Short Term Models Submitted for Peer Review	2048 Short Term Analysis files submitted 7/30/2019		Pending Approval	
	13	2048 Long Term Models Submitted for Peer Review	2048 Long Term Analysis files submitted 8/2/2019		Pending Approval	
Traffic Forecasting	1	Peak Spreading	To be included in the 2048 NoBuild Peak Forecasts	HNTB to consider peak spreading. Will be an iterative process to determine a reasonable amount of spreading	Weekly meeting	4/8/2019
	2	Negative Growth Rates	Per WisDOT Policy, HNTB to use 0% minimum growth	1 Site observed in the demand model (SB Entrance ramp from WIS125)	Phone Call (Chris & Jason)	4/29/2019
	3	2028 Build Daily Forecasts required	HNTB to assume 2028 NoBuild and 2028 Build forecasts are equal.	In lieu of an Interim year demand model and only ~18% volume difference between 2045 NoBuild and Build TDM assignments, the difference between 2028 no build and build is anticipated to be negligible. Further discussions on the need for separate no build and build forecasts were had with Joe U for the IHSDM (he indicated IHSDM will interpolate between 2018 and 2045 Build or No Build, so no 2028 forecasts required) and with Ben R (indicated the 2028 build VISSIM would not be a critical assessment but rather the 2028 no build and the 2048 build to assess congestion levels at the design year). Decision was made to produce 2028 forecast that represented the no build condition.	Phone calls with TFS, Joe U and Ben R on May 3, 2019.	5/3/2019
	4	2048 NoBuild Peak Spreading	Use a demand threshold value that moves demands up to 30 minutes only	Documentation and final recommendation approved	Email (Chris C)	6/5/2019

I-41 Traffic and Engineering Study: Decision Log

Updated for 8/12/2019 (DRAFT)

Category	#	Question or Topic	Decision	Notes / Reasoning	Decision made through	Decision Date
Traffic Forecasting	5	2048 Build AM/PM Volumes	Update 2048 Build Volumes to include C-D Alternative recommended in the 2008 ops study.		Email	7/3/2019
	6	2048 Build Daily Volumes	Updated 2048 Build Daily Volumes	Submitted updated Build Daily Volumes with CD System alternative	Email	7/11/2019

ATTACHMENT N1
WISDOT CORRESPONDENCE

From: Nelson, Scott - DOT
To: Urban, Joseph M.
Cc: Lipke, Bryan - DOT; Walter, Adam; Scopoline, Kevin M - DOT (BTO)
Subject: RE: I-41 IHSDM - version comparison
Date: Monday, April 22, 2019 11:39:28 AM

Hi Joe,

I am thinking we should just stay with V14.0. The differences are minuscule with this update so using V14.0 or V14.1 is insignificant for this particular project. However, since WisDOT staff can only use V14.0 at this time, it likely makes sense to just stay with V14.0. Ultimately as Kevin mentioned, WisDOT needs to get some information in the FDM to provide better guidance to consultants as we move forward with future projects. WisDOT, with Kevin's guidance will need to determine how often we will be updating the software and how to deal with projects that span over one or more updates to IHSDM. In this case, I just think it may be easier to just stick with V14.0 given the output differences seem so minor. If during alternative analysis we are seeing some reason to reconsider this decision, we can do so at that time.

Thanks,

Scott A. Nelson, P.E.
WisDOT Traffic Engineer
Phone: (920) 366-2109

From: Urban, Joseph M. <Joseph.Urban@strand.com>
Sent: Friday, April 19, 2019 6:08 AM
To: Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>; Scopoline, Kevin M - DOT (BTO) <KevinM.Scopoline@dot.wi.gov>
Cc: Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Walter, Adam <Adam.Walter@strand.com>
Subject: I-41 IHSDM - version comparison

Hi Scott and Kevin,

Wanted to follow-up with you after yesterday's call with more information on a comparison between V14.0 results and V14.1 results. Attached are the shorter versions of the IHSDM-generated output, see Pages 8-9 for the overall summary table w/ freeway segments and speed change lanes.

If desired, we could pretty easily push our software back to V14.0 since we have both model versions archived and the model coding is very similar - the only difference was the mainline taper coding i had mentioned yesterday. Let us know what you prefer as you get into the review.

Thanks,

Joe

From:	Urban, Joseph M.
To:	"Lipke, Bryan - DOT"; "Nelson, Scott - DOT"; "Scopoline, Kevin M - DOT (BTO)"; "Michaelson, Jill - DOT"; "Porter, Brian S - DOT"
Cc:	Walter, Adam; Anderson, Eric
Subject:	RE: BTO Review of NE I-41 IHSDM Base Model
Date:	Thursday, May 2, 2019 4:28:00 PM
Attachments:	evaluation.1.report_All Crashes (0 volume)_Short Report.pdf evaluation.1.report_All Crashes (1 volume)_Short Report.pdf image003.png

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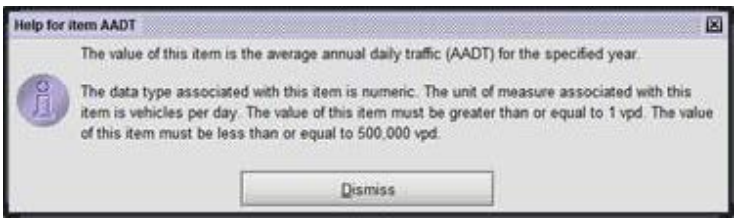
Hey there,

Couple follow-ups below to today's call. Let me know if you want to discuss any of this - thanks!

1) I went back to check the V14.1 run of the I-41 base model. While the output format in V14.1 is different, the actual output looked very similar to V14.0 in that several freeway crashes had effective lengths = 0 and had crash rates being reported. See the snapshot below near CTH BB. **Based on this, it seems that sticking with V14.0 is still the right way to go** but let us know if you think otherwise.

Type and Location					Expected Crashes				Predicted Total	Crash Rates			
Evaluation Type	Segment #	Start Station	End Station	Length (mi)	Total	FI	KAB	PDO		Total	FI	KAB	PDO
Expected	30	445+35.00	445+95.00	0	0	0		0	0	7.9745	3.3535		4.621
Expected	33	445+95.00	446+03.00	0	0	0		0	0				
Expected	36	446+03.00	446+54.00	0	0	0		0	0				
Expected	39	446+54.00	446+70.00	0	0	0		0	0	7.7905	3.226		4.5645
Expected	42	446+70.00	447+43.00	0	0	0		0	0	7.7286	3.1866		4.5419

2) One of the things I mentioned on the call was the output error when a 0 was entered for an AADT volume, just wanted to provide a bit more background on this. Below is the screenshot when pressing "Validate" in IHSDM and attached is the output for both 0 volume and 1 vehicle per day for the two SWEF ramps. You can see the difference in # of warning messages near the back end of the report and in the results on PDF page 9 of each report. A suggestion to correct this in the program is in #3 below.



3) Below is a starting point for suggestions on improvements/changes within IHSDM. We'll think a bit more on all this as there's probably more to add. **Kevin/Scott** - maybe what we can do is put together a word document with shared suggestions and send it all at once to the support team? Do one of you want to take the lead on this or should I? Fine with me either way.

Output

I'd like to see the following generated from the program within the "Show Raw Result" window:

1. Direction of travel for the SCL segment
2. AADT for each Freeway and SCL segment
3. Change "Crash Rate" label to "Crash Frequency per mile"

4. Provide Travel Crash Rate for each Severity Type (Total, FI, PDO, KAB).
5. Label Travel Crash Rate as either "Predicted" or "Expected". Calculate both and provide an option to show either.
6. Q for WisDOT on Travel Crash Rate: This is reported as crashes per million vehicle miles traveled. Would you want to see crashes per hundred million vehicle miles traveled too?

Freeway Coding

1. Lane: Can a check be added within the "Validate" box to show which station ranges have an unbalanced # of lanes?
2. Lane: For the Type category, can "Auxiliary" be added? That would clear up any confusion of having to choose between Acceleration or Deceleration for a weaving section.
3. Ramp Connection: Flag gore-taper lengths over 0.30 miles for the user. Indicate in the pop-up that these sections should be coded as thru lanes.
4. Weaving Section: Can a distance value or station range be added to this window?
5. Weaving Section: If a Type B weave is selected, add flag for distances over 0.85 miles. Indicate in the pop-up that these sections should be coded as thru lanes.
6. Site-Specific Crash Data: Could a few user-specified columns (that wouldn't affect the crash calcs) be added for more clarity on the types of crashes input into the program? For example, we'd like to be able to quickly tell the manner of collision of the observed crashes, whether or not an animal was involved, and the KABCO crash severity (beyond FI or KAB). Having this information would serve help with QC and communicating which observed crash set is being used in an analysis.
7. AADT Volume: Force user to enter minimum AADT value (1 vpd) in order to save the program. An AADT of 0 for a ramp was recently found to generate many errors in V14.0.
8. Consider including "Area Type" in the Crash Prediction Data dropdown. A roadway may be both Urban and Rural within project limits.

From: Urban, Joseph M.
Sent: Tuesday, April 30, 2019 2:09 PM
To: Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>; Scopoline, Kevin M - DOT (BTO) <KevinM.Scopoline@dot.wi.gov>; Michaelson, Jill - DOT <Jill.Michaelson@dot.wi.gov>; Porter, Brian S - DOT <Brian.Porter@dot.wi.gov>
Cc: Walter, Adam <Adam.Walter@strand.com>; Anderson, Eric <Eric.Anderson@strand.com>
Subject: RE: BTO Review of NE I-41 IHSDM Base Model

Hi all,

Thanks for the feedback and comments on the I-41 base model. A couple follow-ups on the BTO comments below:

- **#1b (High-volume hours**) - We used the attached *IH-41 Mainline Volume Trends_Existing Conditions.xlsx* spreadsheet and punched in different AADT values (and PDF'd each segment as we went along) to develop the attached *High-Volume Hour Calcs_IH-41_Base (Draft 4-15-2019).pdf*. The spreadsheet is the best way to check the actual calculations, but we've also found that the PDF is great way to quickly check AADT entered vs. High-volume Hour result. Let

me know if you want to see any more info (raw data, etc.) for this one.

- **#2c (Urban vs Rural)** - See the *IH-41 Urban vs. Rural review* spreadsheet. I did a quick check into the freeway segments on both sides of the Urban/Rural transition at Station 1250+80 (Segments 630 and 631). These are both relatively short segments, but share the same traffic volume and geometric characteristics. Agreed with Kevin here, that the SPFs seem to be working as intended. You can see in the check that the Multi-vehicle crashes are predicted to be slightly higher in the Urban section, showing trends similar to Figure 18-12 of the HSM for a 4-lane freeway.

- **#3a (Effective Length = zero)** - See the *IH-41 Short Segment Review* attachment for an example at the CTH BB interchange, graphic on Page 1 & IHSDM output on Page 2.
    - There's a number of freeway segments on the corridor with an effective length of 0', which each do not have a crash frequency reported (good to see!) and may or may not have a crash rate reported.
    - I think what's happening here is the IHSDM is generating freeway segments along the whole corridor whether the freeway segments are needed for the crash prediction or not. Where there is a station range with an overlapping NB and SB speed-change lane (see attachment for CTH BB example), the freeway segment effective lengths and crash frequency are zeroed out. Other areas along the corridor are showing a similar trend.
    - For I-41 results we should be good with where we're at because we're mainly focusing on the crash frequency results and relative trends for the study. Crash rates reported by the program are another story. It's my understanding that the "crash rate" calculation in IHSDM is simply crashes per mile per year (or crash frequency per mile), so I'm not exactly sure why an "expected crash rate" is reported for some effective length=0' segments when there's no crash frequency reported… We'll just have to be careful about reporting "crash rates" generated by the program (if we end up using them at all).

Let me know if you want to chat about any of this further, otherwise we could plan to discuss this during the next progress call.

Thanks,

Joe

From: Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>
Sent: Monday, April 29, 2019 11:41 AM
To: Urban, Joseph M. <Joseph.Urban@strand.com>
Cc: Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>; Scopoline, Kevin M - DOT (BTO) <KevinM.Scopoline@dot.wi.gov>; Michaelson, Jill - DOT <Jill.Michaelson@dot.wi.gov>; Porter, Brian S - DOT <Brian.Porter@dot.wi.gov>
Subject: FW: BTO Review of NE I-41 IHSDM Base Model

Joe
Wanted to send over Region and BTO-Safety Comments together and today Scott confirms he has no further questions on the model beyond earlier conversations. Thanks much!!

Bryan Lipke, P.E.
Planning Project Manager
Wisconsin Department of Transportation
Northeast Region
Phone: (920) 492-5703
Cell Phone: (920) 360-9196
Bryan.Lipke@dot.wi.gov
wisconsindot.gov

If this is related to a records request, please email: dotdtsdnerecords@dot.wi.gov

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From: Scopoline, Kevin M - DOT (BTO)
Sent: Thursday, April 25, 2019 10:23 AM
To: Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>
Cc: Szymkowski, Rebecca - DOT <Rebecca.Szymkowski@dot.wi.gov>; Porter, Brian S - DOT <Brian.Porter@dot.wi.gov>
Subject: BTO Review of NE I-41 IHSDM Base Model

Hi Bryan and Scott,

I talked with Scott earlier this week about what BTO would be reviewing and wanted to get it in an email, along with some comments. First up, here are the roles and responsibilities that BTO will be involved in for the safety analysis:

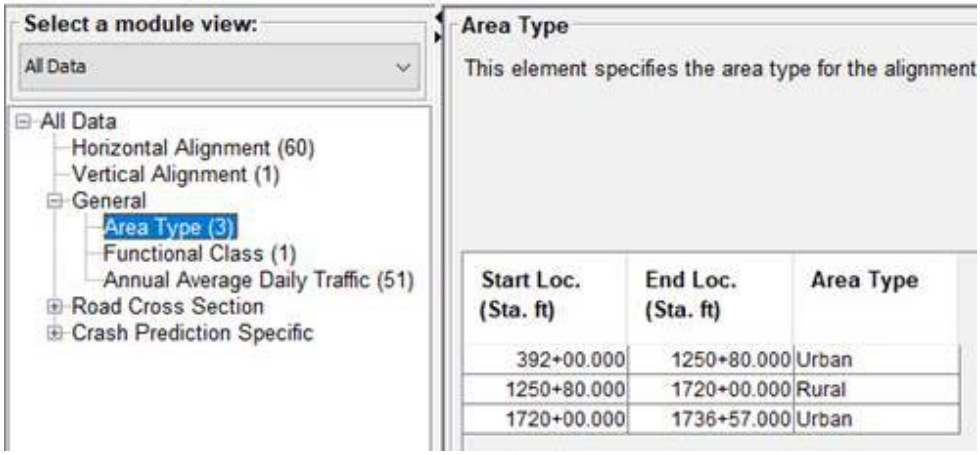
BTO will support the NE Region with a safety analysis of I-41 from south of CTH BB to north of CTH S (Station 392+00 to Station 1736+57). This support will include the following:

1. Participate in weekly progress meetings
2. Work with the Region to establish best practices for WisDOT IHSDM freeway modeling
3. Review Safety Analysis Method
4. Review IHSDM models
    a. Higher level review, will not include checking all inputs
    b. Focus on segmentation of project and correct application of HSM methodologies to the project
    c. Spot check a few values/inputs
5. Review IHSDM results
    a. Higher level review, will not include re-running analysis reports
    b. Check for errors and consistency
    c. Check comparison between alternatives and how the results are discussed
6. Review tech memo/final report
    a. Higher level review
    b. Review discussion of results

I know that there was a previous email from you Bryan talking about BTO's role. I believe what I outlined above captures what was discussed previously, but please let us know if something looks off.

Next, here are my comments as I reviewed the first model, the base scenario.

1. I reviewed the % High Volume calculations
    a. Calculations look good and entered into IHSDM correctly
    b. I was not able to find a calculation for every value entered, not sure if there is another spreadsheet that I missed
2. I reviewed Urban vs. Rural
    a. Decision log shows the project is split into 3 segments, 2 urban and 1 rural
    b. Only 1 segment is used in IHSDM, with it portioned into the separate area types. This was done by creating area types by stationing. This is not the most obvious at first and is a good trick for others to know. The picture below shows how this can be done.



    c. I tried to double check to make sure IHSDM was then applying the correct SPFs to each area type. It was difficult to replicate the results due to the complexity of the model, but I believe it is working as intended.
2. I reviewed the outputs shown in the IHSDM report
    a. There are multiple segments have a value of 0 for the expected and predicted crashes. It appears that the effective length for these segments is 0. I am not sure why since the stationing clearly shows a distance other than 0 and there are segments that have a length as short as 4 ft. My best guess at this point is the interaction between some of the ramps and/or shoulders is causing this issue. Joe might be able to provide more insight, but I think this is worth investigating further.
3. I checked the weaving types, they look correct.

Please let me know if you have any questions about my comments or BTO's role in reviewing the models.

Kevin M. Scopoline

Traffic Operations and Analysis Engineer
Wisconsin Department of Transportation
Bureau of Traffic Operations

phone: 608-266-1273
email: kevinm.scopoline@dot.wi.gov

Please do not print this e-mail unless it is completely necessary!

From:	Nelson, Scott - DOT
To:	Urban, Joseph M.
Cc:	Walter, Adam; Jerry Shadewald; Lipke, Bryan - DOT; Scopoline, Kevin M - DOT (BTO)
Subject:	RE: I-41 No-Build (2048) Peak Spreading Evaluation for IHSDM
Date:	Wednesday, June 5, 2019 3:30:02 PM
Attachments:	image001.png

Joe,

I have reviewed, and spot checked the 2048 No-Build information and no additional comments. Everything seemed to check out good on my end.

Thank you,

Scott A. Nelson, P.E.
WisDOT Traffic Engineer
Phone: (920) 366-2109

From: Scopoline, Kevin M - DOT (BTO)
Sent: Tuesday, June 04, 2019 1:33 PM
To: Urban, Joseph M. <Joseph.Urban@strand.com>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>
Cc: Walter, Adam <Adam.Walter@strand.com>; Jerry Shadewald <JShadewald@HNTB.com>; Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>
Subject: RE: I-41 No-Build (2048) Peak Spreading Evaluation for IHSDM

Hi All,

Here are a couple of my thoughts:

- I agree with the recommendation to handle the peak spreading similar to the operational analysis.
- I agree with Scott that some sensitivity testing is probably something we want to do so we can gain some experience.
- Joe, you put together a great email explaining the thought process for peak hour spreading regarding time periods that might get bumped over the threshold of 1000 vphpl. However, it looked like there might be a few cases where the opposite is possible and drop below the threshold, especially in the 6 lane sections. I think it might be good to include these cases in the sensitivity testing as well.
- Overall the model looks good. For the results, I know that we only have the existing and future no-build models, but I am more interested in comparing the results of the alternatives to one another. I like that you used to average annual metric to try and compare the two models we have, but it can be a little misleading since it is averaging 5 years and 10 years (exiting/future). I am excited to see what the alternatives analysis tells us.

Kevin M. Scopoline

Traffic Operations and Analysis Engineer
Wisconsin Department of Transportation
Bureau of Traffic Operations

phone: 608-266-1273
email: kevinm.scopoline@dot.wi.gov

Please do not print this e-mail unless it is completely necessary!

From: Urban, Joseph M. <Joseph.Urban@strand.com>
Sent: Monday, June 03, 2019 8:50 AM
To: Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>
Cc: Walter, Adam <Adam.Walter@strand.com>; Jerry Shadewald <JShadewald@HNTB.com>; Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Scopoline, Kevin M - DOT (BTO) <KevinM.Scopoline@dot.wi.gov>
Subject: RE: I-41 No-Build (2048) Peak Spreading Evaluation for IHSDM

Thanks Scott, we can work on developing the inputs for the sensitivity test this week but will wait until the No-Build model is approved before running the evaluations.

Joe

From: Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>
Sent: Monday, June 3, 2019 8:25 AM
To: Urban, Joseph M. <Joseph.Urban@strand.com>
Cc: Walter, Adam <Adam.Walter@strand.com>; Jerry Shadewald <JShadewald@HNTB.com>; Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Scopoline, Kevin M - DOT (BTO) <KevinM.Scopoline@dot.wi.gov>
Subject: RE: I-41 No-Build (2048) Peak Spreading Evaluation for IHSDM

Joe,

Thanks for digging into this issue. I agree with your recommendation to handle the peak spreading similar to the operational analysis. I would be interested to understand how much this changes the results. My thought is the results would be very similar just like the weight scale, however until you do the sensitivity test we really will not know.

Scott A. Nelson, P.E.
WisDOT Traffic Engineer
Phone: (920) 366-2109

From: Urban, Joseph M. <Joseph.Urban@strand.com>
Sent: Friday, May 31, 2019 4:34 PM
To: Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>; Scopoline, Kevin M - DOT (BTO) <KevinM.Scopoline@dot.wi.gov>
Cc: Walter, Adam <Adam.Walter@strand.com>; Jerry Shadewald <JShadewald@HNTB.com>
Subject: I-41 No-Build (2048) Peak Spreading Evaluation for IHSDM

Hey there,

Following-up on the I-41 No-Build peak spreading discussion from our call yesterday. We took a look through the 2048 No-Build high-volume hour calculations for IHSDM and have some information for you guys to consider before next week's call.

In the attached PDFs, the 2-way volumes within the 3-hour weekday peak periods are outlined with boxes of three different colors as described below.

- Green boxes represent all hours within a peak period being over 1,000 vphpl, meaning the concept of peak spreading within that 3-hour window would not affect the high-volume hour calculations.
- Blue boxes indicate that peak spreading may affect the high-volume hour calculations. This was a judgement call highlighting locations where a border hour may newly trip the 1,000 vphpl threshold if the peak hour (7-8 AM or 4-5 PM) were to spread out.
- Red boxes indicate that even if peak spreading occurs, it appears unlikely that the border hour will trip the 1,000 vphpl threshold.

Summarizing the peak period evaluation:

- 4-lane sections (Outagamie and Brown)
    - 6-9 AM = up to 20 segments could be affected by peak spreading (nearing 4,000 vph for the 8-9 AM hour in many locations).
    - 3-6 PM = all segments show each hour from 3-6 PM over 4,000 vph. Peak spreading would not affect these high-volume hour calcs.

- 6-lane sections (Outagamie)
    - 6-9 AM = weekday peak spreading is unlikely to affect high-volume hour calcs. The border hours of 6-7 and 8-9 AM are well below 6,000 vph.
    - 3-6 PM = 4 segments could be affected by peak spreading (nearing 6,000 vph).

So, there were 51 total segments reviewed for a total of 102 weekday peak periods. Of the 102 weekday peak periods, 24 (or roughly 1/4) could be affected by peak spreading according to this evaluation. 20 of the 24 segments affected are during the AM peak period in the 4-lane section.

For an example of how the magnitude of the high-volume hour proportions could be affected with peak spreading, see the attached PowerPoint slide for an example segment east of CTH E in the 2048 No-Build. With this segment, the 2028 high-volume hour proportion is 0.30. The analysis options for the No-Build and Interim Alts would be:

- 2028-2037 without peak spreading = program interpolates between 0.31 and 0.50

2028-2037 with peak spreading = program interpolates between 0.31 and 0.54

Overall, pursuing/testing this in IHSDM to get crash prediction results for the mainline wouldn't be a huge effort, but it would add another potential one-off factor in the analysis. My initial thought is to pick one methodology and stick with it for the No-Build and Interim Alts (similar to how we handled the weigh station truck traffic decision). ***I'd propose the IHSDM analysis handle peak spreading similarly to the operations analysis.*** If the peak spreading is just a sensitivity test for the operations analysis, we could treat it that way with the IHSDM analysis as well and document the results in this email. If the "official" operations analysis results for the study are anticipated to include peak spreading, we could update the high-volume hour calculations and re-compile the No-Build IHSDM results to incorporate peak spreading.

Let me know if you want to discuss any of the details further, otherwise this is should be a good thing to cover next Thursday. Thanks!

Joe

Joseph Urban, P.E.
Strand Associates, Inc.®
608.251.4843 ext. 1091
joseph.urban@strand.com | www.strand.com
P.E. (WI)

Excellence in Engineering Since 1946.

From:	Urban, Joseph M.
To:	Lipke, Bryan - DOT; Nelson, Scott - DOT
Cc:	Jill Michaelson (Jill.Michaelson@dot.wi.gov); Walter, Adam; Thompson, Kyle
Subject:	RE: Draft Interim Alt One-Pager
Date:	Tuesday, July 30, 2019 1:08:00 PM
Attachments:	2019-07-30 I-41 Short-Term Improvements_Safety (Draft).pdf ihsdm.project.I-41 Interim Improvements (High Volume Test 7-30).zip I-41 Supporting Data 7-30-2019.zip

Bryan and Scott,

As discussed on last Thursday's call, we've added a second more detailed page to the safety summary slides for the Interim Alternative. See attached and below for some discussion on updates in this email.

- For mainline results:
  - In short, I believe the non-intuitive differences reported for merging sections not coded as thru lanes (like STH 15) have to do with how the proportion of median and/or outside barrier is treated in the crash calculations. The "***Merge CMF and Result Summaries_7-30-2019.xlsx***" within the supporting data zip file shows much more detail on the CMFs, inputs, and results of each evaluation.
  - While digging into the CMFs for the merge locations, we did find that there needed to be two coding corrections made to the mainline sensitivity test models (gore-taper lengths should have been set to 0' for the CTH E and CTH N SB merges). The results and model attached to this email reflect the corrections. The CTH E merge results became a bit more favorable.
- For intersection results:
  - Discussion related to SPFs was added for STH 96 and STH 15.
  - For CTH E something different is happening. The SPFs between No-Build and Build are the same, and the CMFs related to the improvements are mostly all favorable. This leads to the predictive analysis showing a fairly large benefit, while the Empirical-Bayes methodology includes some substantial adjustments and results in a different trend. The ***CTH E intersection Results*** folder within the supporting data zip file shows CMF comparisons (No-Build vs. Build) with each ramp terminal and result comparisons for the SB ramp terminal.

It may be worth having a call after you've had a chance to take a look through the explanations. Sorry for another email with a lot of info, but that's kind of the nature of this stuff :)

Thanks,

Joe

From: Urban, Joseph M.
Sent: Monday, July 22, 2019 3:36 PM
To: Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>
Cc: Jill Michaelson (Jill.Michaelson@dot.wi.gov) <Jill.Michaelson@dot.wi.gov>; Walter, Adam

<Adam.Walter@strand.com>; Thompson, Kyle <Kyle.Thompson@strand.com>
Subject: Draft Interim Alt One-Pager

Hey there,

See attached for a first-cut of a one-pager showing the Interim Alternative IHSDM modeling results. The intent here was to provide an easier way to communicate results (if needed for management, etc.) vs. the more detailed tables included in Friday's submittal.

The results shows the relative comparison to the No-Build over the 2028-2037 timeframe. A few qualitative statements & disclaimers are included for the intersection analysis as well. Let me know if you have any questions or comments on this.

Also - could you confirm you received the several emails I sent along Friday? Just want to make sure as our internet / email was down most of Friday.

Thanks!

Joe

From: Urban, Joseph M.
Sent: Friday, July 19, 2019 1:21 PM
To: Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>
Cc: Jill Michaelson (Jill.Michaelson@dot.wi.gov) <Jill.Michaelson@dot.wi.gov>; Walter, Adam <Adam.Walter@strand.com>; Thompson, Kyle <Kyle.Thompson@strand.com>
Subject: I-41 No-Build and Interim Alt Submittal (email 1)

Hi Bryan and Scott,

The draft Interim (or Short-term) Alternative IHSDM model is ready for your review along with an updated version of the Future No-Build model.

Evaluations were ran in each model to compare results between the intersection improvements proposed at 3 interchanges (STH 96, STH 15, and CTH E) and mainline merge improvements at 5 locations. Some refinements were made to the coding/stationing of the mainline improvements since the 6/27 alts workshop. As discussed at that meeting, the following evaluations were completed:

1. Empirical Bayes (EB) analysis at intersections, where applicable.
    a. No-Build Alternative: EB applies to all intersections and was ran for each of the 6 locations.
    b. Interim Alternative:
        i. EB applies to both the CTH E ramp terminals and to the STH 15 SB ramp terminal.
        ii. EB does not apply to the STH 96 ramp terminals or the STH 15 NB ramp

terminal. At STH 96, a WB thru lane is added. At the STH 15 NB ramp terminal, a WB look-ahead right-turn lane is added (which is treated as a thru lane at this intersection). The predictive results are shown for each of these locations. The results fall very close in line with Table 19-15 of the HSM, where there is a ~12% difference between the SPFs. More detail on the applicable SPFs is included in the analysis spreadsheet.

2. Mainline merge sensitivity tests.
   Two of the proposed improvements (CTH E & CTH N SB merges) are about 20' away from the 0.30 mile threshold to consider a merge as a thru lane. To provide a range of results related to congestion relief, the following adjustments were made:
   a. CTH E & CTH N SB merges were coded as thru lanes.
   b. High-volume hour calculations were adjusted from 4 to 5 lanes at the merges for STH 47 SB (already coded as a thru lane), CTH E SB, and CTH N SB. This increased the effect of congestion relief in the crash prediction analysis.

3. The mainline EB evaluations were completed for all crash types and vehicle-only crash types.

A summary of the intersection and mainline results are included in this email along with the evaluation reports and supporting geometric/traffic input data. The supporting data file includes a list of the interim improvements and snapshots of the short-term improvements in Vissim.

The next couple of emails will include the No-Build, Interim Alternative, and Interim Sensitivity Test IHSDM models themselves. Let me know if you received all the materials & if you would like to discuss.

For next steps and communicating these results to folks outside our team, we're going to put together a one-pager (or two) early next week to try to simplify how these results are shown, both quantitatively and qualitatively.

Thanks!

Joe

Joseph Urban, P.E.
Strand Associates, Inc.®
608.251.4843 ext. 1091
joseph.urban@strand.com | www.strand.com
P.E. (WI)

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From: Lipke, Bryan - DOT
To: Urban, Joseph M.; Nelson, Scott - DOT
Cc: Walter, Adam; Thompson, Kyle
Subject: RE: I-41 IHSDM: Long-term Alt assumptions
Date: Tuesday, July 30, 2019 8:25:52 AM
Attachments: image001.png

Joe,

Thanks for the dialog that keeps us all on the same page with assumptions. We will stick with evaluating only the 10-year (2028-2037) design year given the understood scope and schedule of the IH-41 Mega Project just recently provided to the Transportation Projects Commission.

Bryan Lipke, P.E.
Planning Project Manager
Wisconsin Department of Transportation
Northeast Region
Phone: (920) 492-5703
Cell Phone: (920) 360-9196
Bryan.Lipke@dot.wi.gov
wisconsindot.gov

If this is related to a records request, please email: dotdtsdnerecords@dot.wi.gov

---

From: Urban, Joseph M. <Joseph.Urban@strand.com>
Sent: Tuesday, July 30, 2019 7:50 AM
To: Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>
Cc: Walter, Adam <Adam.Walter@strand.com>; Thompson, Kyle <Kyle.Thompson@strand.com>
Subject: I-41 IHSDM: Long-term Alt assumptions

Hi Bryan & Scott,

Wanted to shoot you a note with a couple thoughts and assumptions on the long-term alternative:

1. EB and WB thru lanes are proposed to be added along CTH BB and STH 125, so we will not need 2013-2017 crash data for the intersection alternatives analysis at these locations. A predictive crash analysis will be used.
2. For outside barrier, we're running with the assumption for now that the "optional" barrier locations provided by HNTB last Thursday will not be included. These could always be added in later if needed.
3. At locations with long merges (>0.30 miles) we are coding the merges as thru lanes per the HSM definitions, but are not adjusting the high-volume hour calculations at this time (e.g. adjusting the calculation to reflect 7 lanes instead of 6 lanes).
4. The analysis period chosen for the interim (short-term) alts analysis has been 2028 to 2037. For the Beltline freeway analysis, we ended up summarizing results for 10-year, 15-year, and 20-year timeframes. Would you like to stick with the 10-year (2028-2037) or expand the timeframe out a bit to 20 years to cover up to the design year?

Let me know what you think on the 4th item & if you have any questions or concerns on the methodology for the rest.

Also, will be sending you updated interim alternative one-pager today with some more explanation on the crash prediction results.

Thanks,

Joe

Joseph Urban, P.E.
Strand Associates, Inc.®
608.251.4843 ext. 1091
joseph.urban@strand.com | www.strand.com
P.E. (WI)

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From:	Urban, Joseph M.
To:	Lipke, Bryan - DOT; Nelson, Scott - DOT
Cc:	Jill Michaelson (Jill.Michaelson@dot.wi.gov); Walter, Adam; Thompson, Kyle
Subject:	I-41 IHSDM Long-Term Alternative Model (Draft)
Date:	Wednesday, August 7, 2019 1:41:00 PM
Attachments:	2019-08 IHSDM Input Comparison - No-Build vs Long-Term (Draft).pdf I-41 Long-Term Analysis Update Call 8-7-19 (Draft).pdf I-41 Long-Term Analysis - Supporting Input Data.zip image001.png

---

Hi Bryan and Scott,

In this email is the first draft of the I-41 Long-Term Alternative IHSDM model and supporting documents. Please forward on to others as needed.

The attached files include the summary slides discussed this morning, a general comparison of geometric and traffic inputs for each analysis segment (not shown this morning), and a zip file with the supporting geometric and traffic inputs. Please download the model(s) and evaluation results/reports using the links below.

1. No-Build IHSDM Model - Includes updated evaluations to match the Long-Term Alternative analysis segments. The Empirical-Bayes (E-B) methodology was ran, but the Predictive Results (generated within the E-B evaluation) were used for comparing results to the Long-Term Alternative.

2. Long-Term Build Alt IHSDM Model - Components and assumptions include:
    a. The proposed westbound C-D road between STH 441 and CTH E and subsequent shift of the I-41 mainline to the south slightly lengthened the mainline alignment. For consistency purposes, the mainline alignment was extended by 4' at the north end of the model to keep the northern limit the same as the No-Build. When comparing the alternatives directly against one-another east/north of STH 441, there will be a difference of 4' in stationing for the same physical location.
    b. The exit to, and entrance from, the westbound C-D road were expanded to 2 lanes and match the geometry shown in the Vissim Model provided by HNTB.
    c. In the attached supporting input data zip file, the geometrics folder contains the standard spreadsheet inputs along with a file showing screenshots of the Vissim Models used for the transition area around STH 15. All other geometric inputs in the IHSDM model were developed using the Long-Term Alternative Cad file. The Cad file was cross-checked with the Vissim Model while developing geometric inputs.
    d. For outside barrier, optional barrier locations are not included at this time. These could always be added in later if needed.
    e. Locations with long merges (>0.30 miles) are coded as thru lanes per the HSM definitions, but the high-volume hour calculations are not adjusted to account for this condition (e.g. adjusting the calculation to reflect 7 lanes instead of 6 lanes).
    f. ***A few coding updates are in progress for the following***:
        i. Adjusting service ramp alignments for visual purposes. You'll see in the submitted model that notable revisions are still needed at STH 15, CTH N, CTH U, and CTH S. Minor revisions could be made at a few other locations.

Revisions to the ramp alignments will not have an effect on crash calcs as the gore locations, # of lanes, and AADT volumes will remain the same.

ii. Adding CTH BB and STH 125 crossroads and ramp terminal intersections to the model.

3. Results and Evaluation Reports - IHSDM reports included for the No-Build and Long-Term Alternative. A spreadsheet of No-Build CMF values (with Long-Term CMFs added at a few locations) is included as well, which was the source of CMF info included in the attached summary slides. For the analysis itself a few notes:
    a. Primary analysis period = 2028 to 2037 (10-years). A secondary analysis period of 2028 to 2047 (20 years) was ran to better understand the impact of traffic factors.
    b. Analysis segments:
        i. The comparisons were broken up into 10 analysis segments, generally between 2 and 3 miles long.
            1. Segment 1 contains minimal geometric changes and increased traffic volumes in the Long-Term Alternative.
            2. Segment 4's limits were set to contain the extents of the proposed westbound C-D road between STH 441 and CTH E.
            3. Segments 5-7 represent a "typical" 4-lane to 6-lane expansion in Outagamie County.
            4. Segments 8-10 represent I-41 in Brown County.
        ii. Four longer-length subtotals are shown in the summary tables as a way to simplify the data and communicate results.

Feel free to call with any questions and let me know if you have any trouble downloading.

Thanks,

Joe

Joseph Urban, P.E.
Strand Associates, Inc.®
608.251.4843 ext. 1091
joseph.urban@strand.com | www.strand.com
P.E. (WI)

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ATTACHMENT N2
IHSDM SUPPORT CORRESPONDENCE

From:	Urban, Joseph M.
To:	Scopoline, Kevin M - DOT (BTO)
Cc:	Lipke, Bryan - DOT; Nelson, Scott - DOT; Walter, Adam
Subject:	FW: IHSDM Software Support - Lane Offsets
Date:	Wednesday, June 12, 2019 1:22:00 PM
Attachments:	image003.png

Hey Kevin FYI on the support team's response for I-41.

Joe

From: Walter, Adam <Adam.Walter@strand.com>
Sent: Wednesday, June 12, 2019 6:54 AM
To: IHSDM Support <IHSDMSUPPORT@dot.gov>
Subject: RE: IHSDM Software Support - Lane Offsets

This all makes sense. Thank you for the feedback, it was very helpful!

Adam

From: IHSDM Support <IHSDMSUPPORT@dot.gov>
Sent: Wednesday, June 12, 2019 6:43 AM
To: Walter, Adam <Adam.Walter@strand.com>
Cc: Urban, Joseph M. <Joseph.Urban@strand.com>; Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>; Petrucci, David (FHWA) <david.petrucci@dot.gov>
Subject: RE: IHSDM Software Support - Lane Offsets

Adam
If your lanes start very wide and are tapered down to a narrower width, simply enter the data as it is. The Lane data has Start and End width. If on wider section the width is wider than the thresholds of the HSM, you would get a warning message and the threshold values will be used in the calculations of the CMFs (version 14.1.0). If there is a separate taper identified by stripping, that would be a different story. That would be another lane that vanishes. I understand that you want the network look like the actual project in the IHSDM viewer but you can skip some details that you know will not affect calculations.
Please let us know if we can be of more help.

Regards,
Mohamad

From: Walter, Adam <Adam.Walter@strand.com>
Sent: Tuesday, June 11, 2019 4:34 PM
To: IHSDM Support <IHSDMSUPPORT@dot.gov>
Cc: Urban, Joseph M. <Joseph.Urban@strand.com>; Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>; Petrucci, David (FHWA) <david.petrucci@dot.gov>
Subject: RE: IHSDM Software Support - Lane Offsets

Hi Mohamad

Thank you for looking into these error messages. We will try exporting the network, deleting the records and importing the network again for the CTH N Crossroad.

The taper sections that do not have any corresponding lanes were coded that way for two reasons:

1. The crossroads right-turn lane taper is connecting into an on-ramp. Since the crossroads are divided multilane urban arterials we did make ramp connections like we would on the mainline. So to try and get the crossroad and ramp connections as close as possible we coded in a taper (which would actually correspond with the on-ramp).
2. The on-ramp starts very wide. For example, the NB on-ramp at CTH N starts at 35' wide and over the next 290' tapers down to 15'. This could be coded as a 35' to 15' taper for the first 290' or it could be coded as a 15' through lane and a 20' to 0' taper. We chose to code it as a 15' through lane and a 20' to 0' taper to ensure the results do not show the first 290' as only a taper. We haven't gotten into the evaluations for ramps yet, but our initial thought was that the 35' to 15' taper coding may show the ramp to have another through lane.

We would be interested to hear your thoughts on how the tapers are coded.

Thanks,
Adam

From: IHSDM Support <IHSDMSUPPORT@dot.gov>
Sent: Tuesday, June 11, 2019 10:30 AM
To: Walter, Adam <Adam.Walter@strand.com>

Cc: Urban, Joseph M. <Joseph.Urban@strand.com>; Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>; Petrucci, David (FHWA) <david.petrucci@dot.gov>
Subject: RE: IHSDM Software Support - Lane Offsets

Hi Adam
Nice work on the project.
Your "CTH N Crossroad" had some lane offset data that could not be viewed through the highway editor. I exported the network, deleted those records, and imported the network again. It does not give that error messages any more. We need to investigate and see why those records were hidden. Sometimes this happens when a highway is built by an older version of the software and imported into a new version of software.
I noticed that this highway and some other ones have "Taper" sections that do not have any corresponding lane (Thru lane, Left-turn Lane, …). For these Taper sections you get the message "Taper element defined without corresponding primary lane." Every taper section should have a full lane corresponding to that. These lanes are the ones these tapers starting or ending. I deleted the one taper section of this type on the "CTH N Crossroad" but did not do anything with the ones on other highways. Please let us know if we can be of more help.

Regards,
Mohamad

From: Walter, Adam <Adam.Walter@strand.com>
Sent: Monday, June 10, 2019 3:48 PM
To: IHSDM Support <IHSDMSUPPORT@dot.gov>
Cc: Urban, Joseph M. <Joseph.Urban@strand.com>; Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>; Petrucci, David (FHWA) <david.petrucci@dot.gov>
Subject: RE: IHSDM Software Support - Lane Offsets

Hi Mohamad,

We started the project in V14.0 and have not upgraded at this time. Attached is the txt file.

Thanks,
Adam

From: IHSDM Support <IHSDMSUPPORT@dot.gov>
Sent: Monday, June 10, 2019 2:12 PM
To: Walter, Adam <Adam.Walter@strand.com>
Cc: Urban, Joseph M. <Joseph.Urban@strand.com>; Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>; Petrucci, David (FHWA) <david.petrucci@dot.gov>
Subject: RE: IHSDM Software Support - Lane Offsets

Hi Adam
This is Mohamad Banihashemi from IHSDM Support. Our email system filters .zip files. Please change the extension of your .zip file to .txt and re-send it.

We now use IHSDM version 14.1.0. There is a good change that the new version does not have this problem if the data does not have problem. Please download the new version, install it (not on the top of the previous version) and un-archive the project in that. However, the problem might be from data. Please re-send your project archive for us to review.

Regards,
Mohamad

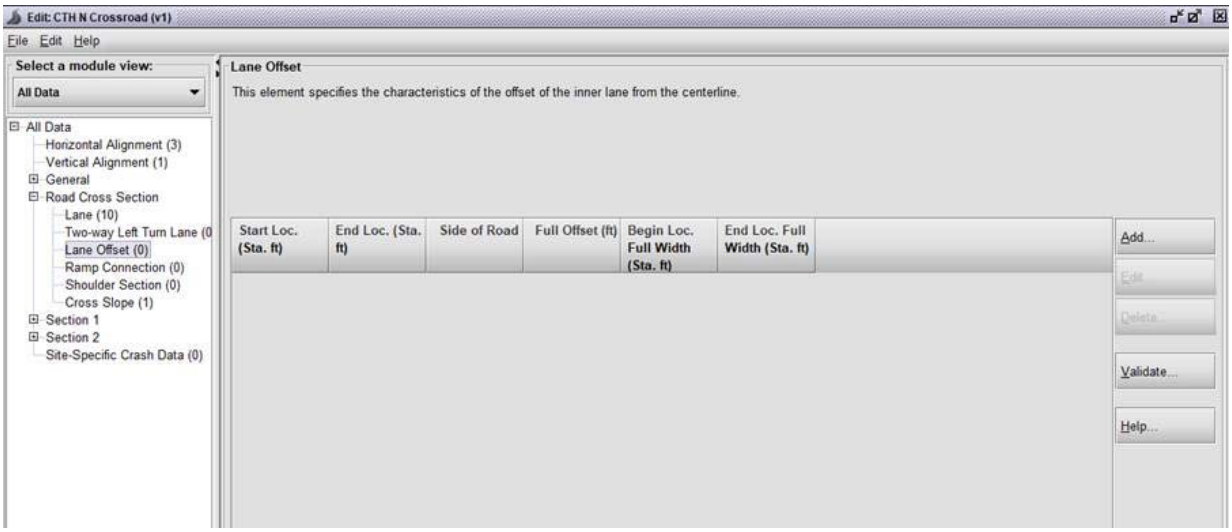
From: Walter, Adam <Adam.Walter@strand.com>
Sent: Monday, June 10, 2019 10:30 AM
To: IHSDM Support <IHSDMSUPPORT@dot.gov>
Cc: Urban, Joseph M. <Joseph.Urban@strand.com>; Lipke, Bryan - DOT <Bryan.Lipke@dot.wi.gov>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>
Subject: IHSDM Software Support - Lane Offsets

The email message contained a ZIP attachment. The file was removed, as all ZIP files are temporarily blocked at this time. Other file types (e.g. Word, PowerPoint, PDF, etc.) can be received. If you recognize the sender and would like to view the attachment, please ask the sender to resend the message with a different file type, if possible.
Hi,

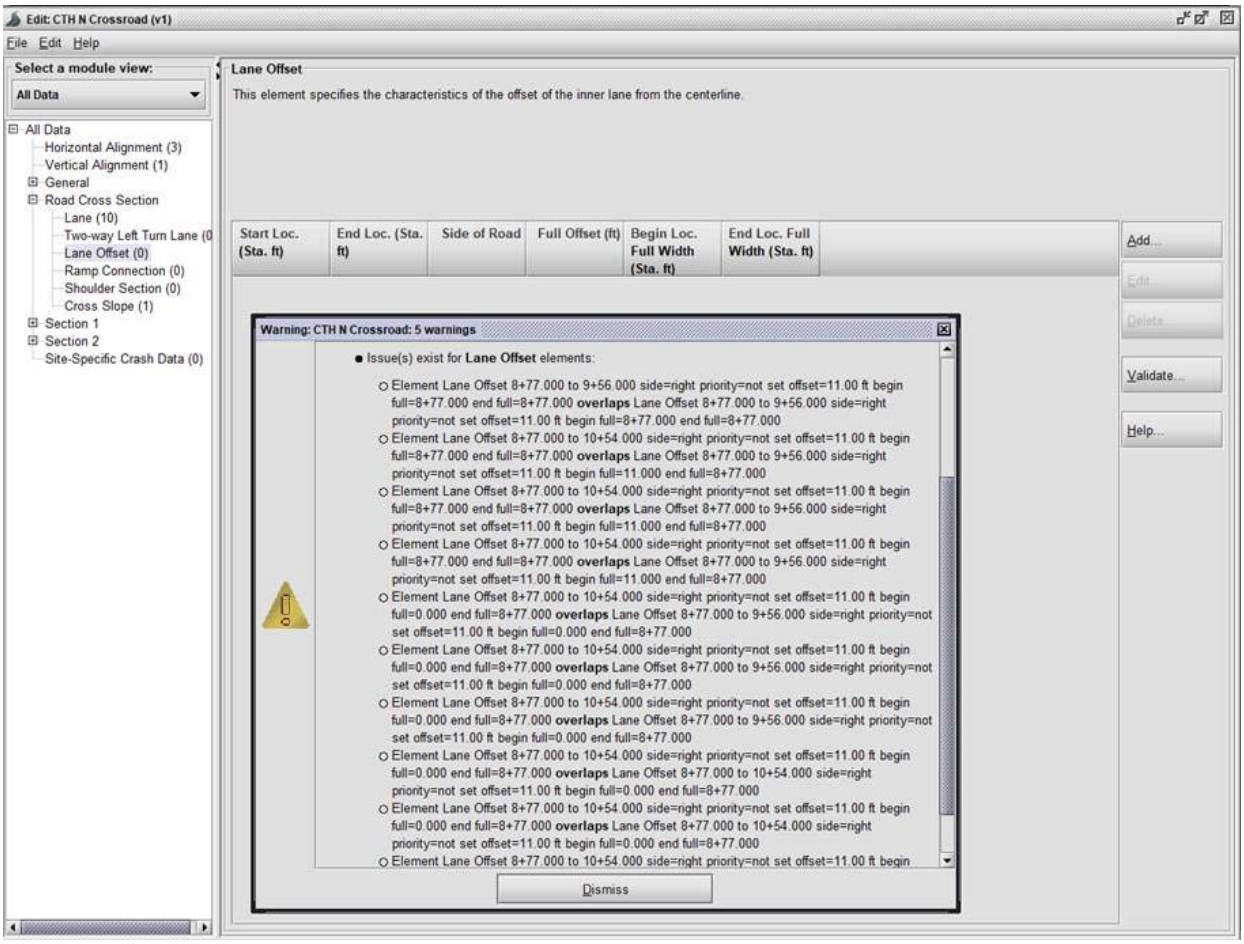
I am emailing you regarding an issue we are having with Version 14.0 of the IHSDM software for a study along IH 41 in northeast Wisconsin.

The issue we are running into is in the lane offset field for highways between ramp terminals. When lanes need to be shifted to account for left-turn lanes developing on our crossroad we are able to enter the data into the models but after we do an update the data disappears. The error messages from the screenshot below shows that the information we coded in is still in the software but is not being displayed. Any insight on how to resolve this issue would be appreciated. See screenshots below for further details. Also, attached is a zip file of the model and a link to the interchange we're looking at his here: https://goo.gl/maps/5nmbVWVM3rjmE8sp8

LANE OFFSETS DISPLAYED FOR CTH N CROSSROAD



ERROR MESSAGE DESCRIBING LANE OFFSETS THAT ARE IN THE MODEL FOR THE CTH N CROSSROAD



Thank you,

Adam Walter, P.E.
Strand Associates, Inc.®
414.982.2300 ext.1512
adam.walter@strand.com | www.strand.com
P.E. (WI)

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From:	IHSDM Support
To:	Urban, Joseph M.
Cc:	Walter, Adam; Petrucci, David (FHWA)
Subject:	RE: EB Analysis at intersections
Date:	Thursday, July 18, 2019 6:52:13 AM
Attachments:	image001.png

Joe
If the crash is intersection-related the exact location does not matter. To make sure all such crashes are accounted for properly you can have the intersection station as the location of crash.

Mohamad

From: Urban, Joseph M. <Joseph.Urban@strand.com>
Sent: Wednesday, July 17, 2019 3:54 PM
To: IHSDM Support <IHSDMSUPPORT@dot.gov>
Cc: Walter, Adam <Adam.Walter@strand.com>; Petrucci, David (FHWA) <david.petrucci@dot.gov>
Subject: RE: EB Analysis at intersections

OK - that does help. Sorry one more for you…. If all ramp terminal intersection crashes are treated equally do we need to go through the effort of determining the approximate station the crash occurred at? Or would it be the same to assign all crashes associated to the intersection to one Station?

Joe

From: IHSDM Support <IHSDMSUPPORT@dot.gov>
Sent: Wednesday, July 17, 2019 11:48 AM
To: Urban, Joseph M. <Joseph.Urban@strand.com>
Cc: Walter, Adam <Adam.Walter@strand.com>; Petrucci, David (FHWA) <david.petrucci@dot.gov>
Subject: RE: EB Analysis at intersections

Joe
The determining factor is the designation of crashes to the intersection in the data. So, even if it is distant from the intersection/ramp terminal but identified as Intersection-related and related to that specific intersection/ramp terminal, it would be considered as such in the EB.

Mohamad

From: Urban, Joseph M. <Joseph.Urban@strand.com>
Sent: Wednesday, July 17, 2019 8:52 AM
To: IHSDM Support <IHSDMSUPPORT@dot.gov>
Cc: Walter, Adam <Adam.Walter@strand.com>; Petrucci, David (FHWA) <david.petrucci@dot.gov>
Subject: RE: EB Analysis at intersections

Hi Mohamad,

Thanks for the feedback on this. That makes sense with storing the crashes on the crossroad and the before/after period analysis.

A couple follow-ups for you:

- Let's say I have a 2,000' long crossroad coded in the model. One crash is an angle crash that occurred at one of the ramp terminal intersection. Another crash was a rear-end that occurred along the crossroad 300' away from the intersection. Does it matter where along the crossroad these crashes are coded, or just that they are assigned to the intersection?
- If I have an intersection-related crash that occurs along the exit ramp 500' away from the intersection (e.g. rear-end at a congested signal), would this still be a crash coded/stored along the crossroad?

Just trying to figure out the level of detail we need to go into when placing the crashes. Appreciate the help here,

Joe

From: IHSDM Support <IHSDMSUPPORT@dot.gov>
Sent: Wednesday, July 17, 2019 7:01 AM
To: Urban, Joseph M. <Joseph.Urban@strand.com>
Cc: Walter, Adam <Adam.Walter@strand.com>; Petrucci, David (FHWA) <david.petrucci@dot.gov>
Subject: RE: EB Analysis at intersections

Joe
This is Mohamad Banihashemi from IHSDM Support. For intersections and ramp terminals crash data is stored on the highways these facilities defined. For ramp terminals the crossroad is the place you should store the ramp terminal crashes. When you have crashes defined on crossroad highway editor you should identify them as Intersection-related and then from the list of intersections and ramp terminals on that crossroad select the ramp terminal that the crashes belong to. At the time of running the evaluation of the ramp terminal when you choose to use EB, there is a field in which you can identify the "Highway with Crash History" in which you choose the crossroad. By this the software would know that crashes to be related to the ramp terminal are in that highway data.

In case that you have two ramp terminals, one before-period that carries crash data and one after-period that is the alternative, you need to also have two crossroads, one that is from before-period and carries the crash data and one that is of after-period and is being evaluated. I hope I have answered your questions. Please let us know if we can be of more help.

Regards,
Mohamad

From: Urban, Joseph M. <Joseph.Urban@strand.com>
Sent: Tuesday, July 16, 2019 2:48 PM
To: IHSDM Support <IHSDMSUPPORT@dot.gov>

Cc: Walter, Adam <Adam.Walter@strand.com>
Subject: EB Analysis at intersections

Hello,

We're taking a look at a ramp terminal intersections in the CPM and have built 5 different alignments to do so in a station-based format. A two-part question for you with coding existing crashes for an EB analysis:

1. Does it matter which alignment the existing crash is assigned to or does the program only recognize that the crash has been associated with the ramp terminal intersection?
2. If the alignment choice does matter, does the exact location of the existing crash along that alignment need to be coded?

Right now I'm assuming for #1 that the alignment chosen does matter, but I was not sure on how important the location along the alignment is (#2) when it comes to a ramp terminal intersection evaluation.

Thanks in advance for your help!

Joe

Joseph Urban, P.E.
Strand Associates, Inc.®
608.251.4843 ext. 1091
joseph.urban@strand.com | www.strand.com
P.E. (WI)

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From:	IHSDM Support
To:	Urban, Joseph M.
Cc:	Walter, Adam; Thompson, Kyle; Nelson, Scott - DOT; Petrucci, David (FHWA)
Subject:	RE: Ramp re-coding errors
Date:	Tuesday, August 13, 2019 10:59:41 AM
Attachments:	image002.png image003.png image004.png image005.png

---

Joe
There are so many combination of operations that it is almost impossible to test all of those. However, most cases that I have seen create problems are the type of modifications or deletions that are not registered and then an operation tries to use the item. One thing that could help prevent this is to update the data and close/re-open the highway editor after any major modification.

With respect to ramp connections, you can copy the data in a spreadsheet and if something like this happens simply delete the corrupted ramp terminal and copy/paste the accurate records from spreadsheet.

Mohamad

From: Urban, Joseph M. <Joseph.Urban@strand.com>
Sent: Tuesday, August 13, 2019 10:17 AM
To: IHSDM Support <IHSDMSUPPORT@dot.gov>
Cc: Walter, Adam <Adam.Walter@strand.com>; Thompson, Kyle <Kyle.Thompson@strand.com>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>; Petrucci, David (FHWA) <david.petrucci@dot.gov>
Subject: RE: Ramp re-coding errors

Hi Mohamad,

Thanks for checking into this and the quick reply. We'll look forward to the next release for that issue.

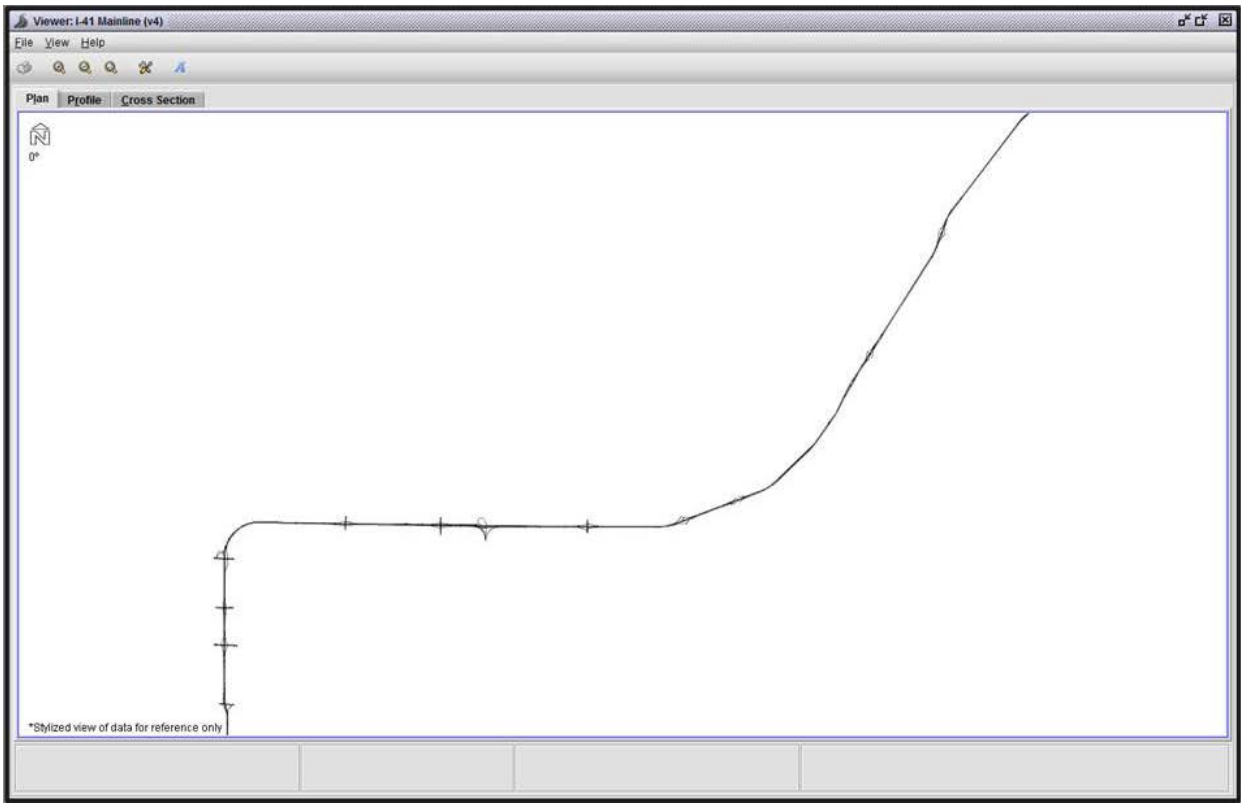
One question, you mention a certain order of operations may cause the problem. Do you have a recommended order of operations of re-importing ramps and crossroads into an existing freeway model? I was thinking a potential workaround could be to delete out the entire ramp connections data before the reload process (then recode after reloading the ramp), but wanted to get your thoughts.

Joe

From: IHSDM Support <IHSDMSUPPORT@dot.gov>
Sent: Tuesday, August 13, 2019 8:43 AM
To: Urban, Joseph M. <Joseph.Urban@strand.com>
Cc: Walter, Adam <Adam.Walter@strand.com>; Thompson, Kyle <Kyle.Thompson@strand.com>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>; Petrucci, David (FHWA) <david.petrucci@dot.gov>
Subject: RE: Ramp re-coding errors

Joseph
Thanks for the information. Another user sent us a project with similar problem. I sent it to our software developer to investigate and what he said was that certain order of operations may cause problems like this. He has worked on the software and hopefully it will be resolved for the next release. As we work on the new release the software developer builds the developer versions for us to test. As I un-archive your August 9 using the developer version the ramp connections look fine. So, hopefully this problem will be fully resolved in the next public release. The following is a view of the project after I un-archive it with the developer version. Please let us know if we can be of more help.

Regards,
Mohamad



From: Urban, Joseph M. <Joseph.Urban@strand.com>
Sent: Friday, August 09, 2019 4:35 PM
To: IHSDM Support <IHSDMSUPPORT@dot.gov>
Cc: Walter, Adam <Adam.Walter@strand.com>; Thompson, Kyle <Kyle.Thompson@strand.com>; Nelson, Scott - DOT <Scott.Nelson@dot.wi.gov>
Subject: Ramp re-coding errors

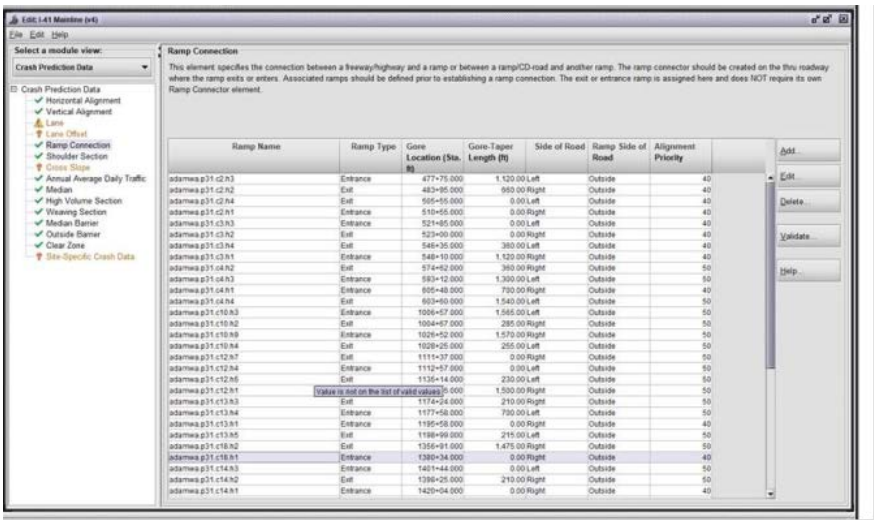
Hello,

We're trying to troubleshoot some recent errors we've found after exchanging/packing a freeway model to one-another.

For an alternatives analysis we have been re-coding a number of service ramps to make the visuals at interchanges look more correct as mainline gore stations have changed, which is in the attached "August 9th ramp revisions" model. The ramps that were adjusted and re-imported were at locations with and without crossroads coded. In the August 9th model, we see the different errors shown below with ramp connections (reset & not drawn), weaving sections (needed to be recoded), and ramp terminals (after fixing the ramp connections tab).

So, we'd like to avoid having someone who opens the model have to re-code ramp connections & other settings. Let us know if you see the same errors and issues pop up when loading the August 9th model. Any suggestions on how to resolve the ramp connection and ramp terminal errors would be appreciated!

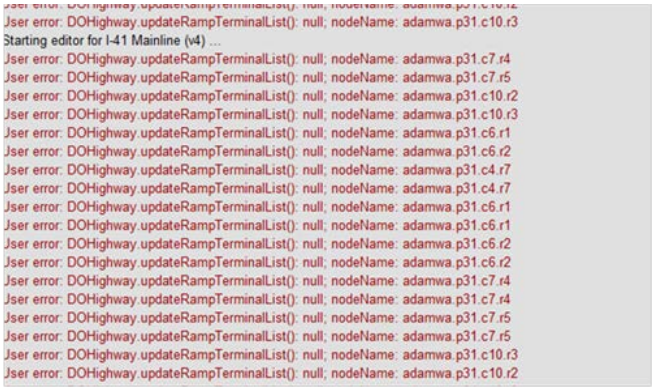
Initial Error #1:



Initial Error #2:



Errors after fixing the Ramp Connection Tab:



Joseph Urban, P.E.
Strand Associates, Inc.®
608.251.4843 ext. 1091
joseph.urban@strand.com | www.strand.com
P.E. (WI)

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ATTACHMENT O
FUTURE NO-BUILD ALTERNATIVE CRASH PREDICTION RESULTS

I-41 IHSDM Analysis: Base Conditions Crash Analysis Results

September 17, 2019 (Draft)

Note: All results shown reflect 5-year totals over 2013-2017 (5-year) time period

Table 1: Evaluation with All Crashes (Vehicle + Animal)

Analysis Segments		Total Crashes			Fatal and Injury (FI) Crashes			Property Damage Only (PDO) Crashes			Percent Differences (Exp - Pred) / Pred		
Segment	Dist (mi)	Observed	Predicted	Expected	Observed	Predicted	Expected	Observed	Predicted	Expected	Total	FI	PDO
South of CTH BB to STH 96	2.7	369	219.0	292.3	106	65.5	78.4	263	153.5	213.9	33%	20%	39%
STH 96 to North of STH 15	2.5	284	179.9	234.2	59	56.2	56.6	225	123.7	177.6	30%	1%	44%
North of STH 15 to West of CTH E	2.5	192	182.6	192.0	42	57.5	53.7	150	125.1	138.3	5%	-7%	11%
West of CTH E to East of STH 441	3.1	274	215.5	242.7	71	67.7	69.0	203	147.7	173.7	13%	2%	18%
East of STH 441 to West of STH 55	2.2	120	138.9	131.6	28	43.1	39.0	92	95.8	92.6	-5%	-9%	-3%
West of STH 55 to East of CTH J	3.2	199	182.1	192.6	42	58.0	53.0	157	124.1	139.6	6%	-9%	12%
East of CTH J to CTH U (County Line)	3.0	117	138.7	133.8	24	41.8	37.7	93	96.9	96.2	-4%	-10%	-1%
CTH U (County Line) to South of CTH S	2.1	119	95.7	107.4	21	28.0	27.0	98	67.7	80.4	12%	-4%	19%
South of CTH S to North of CTH S	1.7	77	83.9	84.6	11	25.2	22.1	66	58.7	62.5	1%	-12%	7%
North of CTH S to South of CTH F	2.3	99	112.4	108.1	25	33.0	31.3	74	79.5	76.8	-4%	-5%	-3%
Total	*25.5*	*1,850*	*1,548.6*	*1,719.3*	*429*	*476.0*	*467.7*	*1,421*	*1,072.6*	*1,251.6*	11%	-2%	17%

Subtotals

South of CTH BB to North of STH 15	5.2	653.0	398.9	526.5	165.0	121.7	135.0	488.0	277.2	391.5	32%	11%	41%
North of STH 15 to East of STH 441	5.6	466.0	398.0	434.7	113.0	125.2	122.7	353.0	272.8	312.0	9%	-2%	14%
East of STH 441 to CTH U (Brown Co)	8.5	436.0	459.7	458.0	94.0	142.9	129.7	342.0	316.7	328.3	0%	-9%	4%
CTH U to South of CTH F	6.2	295.0	292.0	300.1	57.0	86.2	80.4	238.0	205.8	219.7	3%	-7%	7%

I-41 IHSDM Analysis: Base Conditions Crash Analysis Results

September 17, 2019 (Draft)

Note: All results shown reflect 5-year totals over 2013-2017 (5-year) time period

Table 2: Evaluation with Vehicle Crashes Only (Excludes Animal)

Analysis Segments		Total Crashes			Fatal and Injury (FI) Crashes			Property Damage Only (PDO) Crashes			Percent Differences (Exp - Pred) / Pred		
Segment	Dist (mi)	Observed	Predicted	Expected	Observed	Predicted	Expected	Observed	Predicted	Expected	Total	FI	PDO
South of CTH BB to STH 96	2.7	345	219.0	279.8	104	65.5	77.9	241	153.5	201.9	28%	19%	31%
STH 96 to North of STH 15	2.5	255	179.9	219.2	59	56.2	56.6	196	123.7	162.6	22%	1%	31%
North of STH 15 to West of CTH E	2.5	179	182.6	185.6	42	57.5	53.7	137	125.1	131.9	2%	-7%	5%
West of CTH E to East of STH 441	3.1	248	215.5	230.5	71	67.7	69.0	177	147.7	161.5	7%	2%	9%
East of STH 441 to West of STH 55	2.2	111	138.9	127.3	28	43.1	39.0	83	95.8	88.3	-8%	-9%	-8%
West of STH 55 to East of CTH J	3.2	176	182.1	181.9	41	58.0	52.8	135	124.1	129.1	0%	-9%	4%
East of CTH J to CTH U (County Line)	3.0	101	138.7	126.4	24	41.8	37.7	77	96.9	88.7	-9%	-10%	-8%
CTH U (County Line) to South of CTH S	2.1	104	95.7	100.4	21	28.0	27.0	83	67.7	73.4	5%	-4%	9%
South of CTH S to North of CTH S	1.7	62	83.9	77.7	11	25.2	22.1	51	58.7	55.5	-7%	-12%	-5%
North of CTH S to South of CTH F	2.3	86	112.4	102.3	24	33.0	31.0	62	79.5	71.3	-9%	-6%	-10%
Total	*25.5*	*1,667*	*1,548.6*	*1,631.0*	*425*	*476.0*	*466.7*	*1,242*	*1,072.6*	*1,164.3*	5%	-2%	9%

Subtotals

South of CTH BB to North of STH 15	5.2	600.0	398.9	499.0	163.0	121.7	134.5	437.0	277.2	364.5	25%	11%	31%
North of STH 15 to East of STH 441	5.6	427.0	398.0	416.1	113.0	125.2	122.7	314.0	272.8	293.4	5%	-2%	8%
East of STH 441 to CTH U (Brown Co)	8.5	388.0	459.7	435.6	93.0	142.9	129.5	295.0	316.7	306.1	-5%	-9%	-3%
CTH U to South of CTH F	6.2	252.0	292.0	280.4	56.0	86.2	80.1	196.0	205.8	200.3	-4%	-7%	-3%

I-41 IHSDM Analysis: Crash Frequency Results Comparison No-Build (2028-2037) vs. Existing (2013-2017)

August 2019 (Draft)

Expected Annual Average Crash Results

	Analysis Segments			Total Crashes		Fatal and Injury (FI) Crashes		Property Damage Only (PDO) Crashes		Percent Differences Annual Average Expected Crashes No-Build vs. Existing		
	Segment #	Dist (mi)	General Limits	Existing (Expected)	No-Build (Expected)	Existing (Expected)	No-Build (Expected)	Existing (Expected)	No-Build (Expected)	Total	FI	PDO
Analysis Segments	1	2.7	South of CTH BB to STH 96	58.5	65.8	15.7	18.0	42.8	47.8	12.6%	15.0%	11.7%
	2	2.5	STH 96 to North of STH 15	46.8	55.5	11.3	13.6	35.5	41.9	18.6%	20.3%	18.1%
	3	2.5	North of STH 15 to West of CTH E	38.4	46.8	10.7	13.2	27.7	33.6	21.9%	22.9%	21.5%
	4	3.1	West of CTH E to East of STH 441	48.5	56.6	13.8	16.3	34.7	40.3	16.6%	18.1%	16.0%
	5	2.2	East of STH 441 to West of STH 55	26.3	30.0	7.8	9.0	18.5	21.0	14.1%	15.6%	13.5%
	6	3.2	West of STH 55 to East of CTH J	38.5	43.9	10.6	12.2	27.9	31.7	14.0%	15.0%	13.6%
	7	3.0	East of CTH J to CTH U (County Line)	26.8	30.3	7.5	8.6	19.2	21.7	13.3%	13.9%	13.0%
	8	2.1	CTH U (County Line) to South of CTH S	21.5	24.6	5.4	6.2	16.1	18.4	14.6%	15.2%	14.4%
	9	1.7	South of CTH S to North of CTH S	16.9	19.3	4.4	5.1	12.5	14.2	14.1%	14.3%	14.0%
	10	2.3	North of CTH S to South of CTH F	21.6	24.7	6.3	7.2	15.4	17.6	14.5%	14.6%	14.5%
Subtotals	1-2	5.2	South of CTH BB to North of STH 15	105.3	121.4	27.0	31.6	78.3	89.8	15.3%	17.2%	14.6%
	3-4	5.6	North of STH 15 to East of STH 441	86.9	103.4	24.5	29.5	62.4	73.9	18.9%	20.2%	18.4%
	5-7	8.5	East of STH 441 to CTH U (Brown Co)	91.6	104.3	25.9	29.8	65.7	74.5	13.8%	14.9%	13.4%
	8-10	6.2	CTH U to South of CTH F	60.0	68.7	16.1	18.4	43.9	50.2	14.4%	14.7%	14.3%
	Overall	*25.5*	*South of CTH BB to South of CTH F*	*343.9*	*397.7*	*93.5*	*109.4*	*250.3*	*288.4*	15.7%	16.9%	15.2%

Notes:

Empirical-Bayes Method used for existing and No-Build conditions utilizing all observed crash types (vehicle + animal)

Existing represents annual average expected over 5 years (2013 to 2017).

No-Build represents annual average expected crashes over 10 years (2028 to 2037).

ATTACHMENT P
SHORT-TERM BUILD ALTERNATIVE CRASH PREDICTION RESULTS

I-41 IHSDM Analysis: Future No Build vs. Short-Term Build Alternative Crash Analysis Results (2028-2037 Expected Crashes)

July 30, 2019 (Draft)

Output Notes:

1) *Output is entered from IHSDM-generated evaluation reports based on the station-ranges shown for 2028-2037 (10 yr total)*
2) *Table 1 follows a consistent methodology as the No-Build regarding high-volume hours.*
3) *Table 2 adjusts high-volume hours for the 3 merge lengths that are near or over the 0.30 mile gore-taper length threshold.*

Coding changes for Merge Length Sensitivity Test

Table 1: Evaluation with All Crashes (Vehicle + Animal Crashes)

Analysis Segments (Interchange to Interchange)								Total Expected Crashes		Fatal and Injury (FI) Expected Crashes		Percent Differences		Absolute Differences	
												Expected Crashes: (Short-Term - No-Build) / No-Build		Expected Crashes: Short-Term - No-Build	
Improvement Location		Start Station	End Station	Dist (ft)	Dist (mi)	Treated as thru lane?	High-volume hour # of lanes	No-Build	Short-Term Alt	No-Build	Short-Term Alt	Total	FI	Total	FI
STH 15	NB Merge extension	60365	61415	1,050	0.20	No	4	70.3	71.9	16.0	16.7	2.3%	4.4%	1.6	0.7
STH 47	SB Merge extension	71085	73585	2,500	0.47	Yes	4	90.6	85.6	23.3	22.2	-5.5%	-4.8%	-5.0	-1.1
CTH E	SB Merge extension	82870	84430	1,560	0.30	No	4	83.0	83.7	20.3	20.9	0.9%	2.6%	0.7	0.5
CTH N	SB Merge extension	99040	100600	1,560	0.30	No	4	49.1	49.5	13.8	14.0	0.9%	0.8%	0.4	0.1
CTH S	NB Merge extension	158460	159420	960	0.18	No	4	23.4	23.4	6.4	6.3	0.1%	-0.9%	0.0	-0.1
			Totals	***7,630***	***1.45***			***316.4***	***314.1***	***79.9***	***80.0***	-0.7%	0.2%	-2.2	0.2

Table 2: Sensitivity Test for Extended Merge Lengths

Analysis Segments (Interchange to Interchange)								Total Expected Crashes		Fatal and Injury (FI) Expected Crashes		Percent Differences		Absolute Differences	
												Expected Crashes: (Short-Term - No-Build) / No-Build		Expected Crashes: Short-Term - No-Build	
Improvement Location		Start Station	End Station	Dist (ft)	Dist (mi)	Treated as thru lane?	High-volume hour # of lanes	No-Build	Short-Term Alt	No-Build	Short-Term Alt	Total	FI	Total	FI
STH 15	NB Merge extension	60365	61415	1,050	0.20	No	4								
STH 47	SB Merge extension	71085	73585	2,500	0.47	Yes	**5**	90.6	84.9	23.3	21.8	-6.3%	-6.3%	-5.7	-1.5
CTH E	SB Merge extension	82870	84430	1,560	0.30	**Yes**	**5**	83.0	77.2	20.3	18.0	-7.0%	-11.6%	-5.8	-2.4
CTH N	SB Merge extension	99040	100600	1,560	0.30	**Yes**	**5**	49.1	47.7	13.8	13.2	-2.8%	-4.7%	-1.4	-0.7
CTH S	NB Merge extension	158460	159420	960	0.18	No	4								
			Totals	***7,630***	***1.45***			***222.7***	***209.7***	***57.5***	***53.0***	-5.8%	-7.8%	-12.9	-4.5

Table 3: Difference (Sensitivity Test - Initial Evaluation)

Analysis Segments (Interchange to Interchange)								Total Expected Crashes		Fatal and Injury (FI) Expected Crashes		Percent Differences		Absolute Differences	
												Expected Crashes: (Short-Term - No-Build) / No-Build		Expected Crashes: Short-Term - No-Build	
Improvement Location		Start Station	End Station	Dist (ft)	Dist (mi)	Treated as thru lane?	High-volume hour # of lanes	No-Build	Short-Term Alt	No-Build	Short-Term Alt	Total	FI	Total	FI
STH 47	SB Merge extension	71085	73585	2,500	0.47	Yes	**5**	0.0	-0.7	0.0	-0.4	-0.8%	-1.5%	-0.7	-0.4
CTH E	SB Merge extension	82870	84430	1,560	0.30	**Yes**	**5**	0.0	-6.5	0.0	-2.9	-7.9%	-14.2%	-6.5	-2.9
CTH N	SB Merge extension	99040	100600	1,560	0.30	**Yes**	**5**	0.0	-1.8	0.0	-0.8	-3.7%	-5.5%	-1.8	-0.8
			Totals	***5,620***	***1.06***			***0.0***	***-9.1***	***0.0***	***-4.0***			-9.1	-4.0

I-41 IHSDM Analysis: Future No Build vs. Short-Term Build Alternative Crash Analysis Results (2028-2037 Expected Crashes)

July 30, 2019 (Draft)

Output Notes:

1) *Output is entered from IHSDM-generated evaluation reports based on the station-ranges shown for 2028-2037 (10 yr total)*
2) *Table 1 follows a consistent methodology as the No-Build regarding high-volume hours.*
3) *Table 2 adjusts high-volume hours for the 3 merge lengths that are near or over the 0.30 mile gore-taper length threshold.*

Coding changes for Merge Length Sensitivity Test

Table 1: Evaluation with All Crashes (Vehicle Only Crashes)

Analysis Segments (Interchange to Interchange)								Total Expected Crashes		Fatal and Injury (FI) Expected Crashes		Percent Differences		Absolute Differences	
												Expected Crashes: (Short-Term - No-Build) / No-Build		Expected Crashes: Short-Term - No-Build	
Improvement Location		Start Station	End Station	Dist (ft)	Dist (mi)	Treated as thru lane?	High-volume hour # of lanes	No-Build	Short-Term Alt	No-Build	Short-Term Alt	Total	FI	Total	FI
STH 15	NB Merge extension	60365	61415	1,050	0.20	No	4	69.1	70.7	16.0	16.7	2.3%	4.4%	1.6	0.7
STH 47	SB Merge extension	71085	73585	2,500	0.47	Yes	4	89.5	84.6	23.3	22.2	-5.5%	-4.8%	-5.0	-1.1
CTH E	SB Merge extension	82870	84430	1,560	0.30	No	4	75.5	75.8	20.3	20.9	0.5%	2.6%	0.3	0.5
CTH N	SB Merge extension	99040	100600	1,560	0.30	No	4	47.1	47.5	13.8	14.0	1.0%	0.8%	0.5	0.1
CTH S	NB Merge extension	158460	159420	960	0.18	No	4	19.9	20.0	6.4	6.3	0.6%	-0.9%	0.1	-0.1
			Totals	***7,630***	***1.45***			***301.1***	***298.7***	***79.9***	***80.0***	-0.8%	0.2%	-2.4	0.2

Table 2: Sensitivity Test for Extended Merge Lengths

Analysis Segments (Interchange to Interchange)								Total Expected Crashes		Fatal and Injury (FI) Expected Crashes		Percent Differences		Absolute Differences	
												Expected Crashes: (Short-Term - No-Build) / No-Build		Expected Crashes: Short-Term - No-Build	
Improvement Location		Start Station	End Station	Dist (ft)	Dist (mi)	Treated as thru lane?	High-volume hour # of lanes	No-Build	Short-Term Alt	No-Build	Short-Term Alt	Total	FI	Total	FI
STH 15	NB Merge extension	60365	61415	1,050	0.20	No	4								
STH 47	SB Merge extension	71085	73585	2,500	0.47	Yes	**5**	89.5	83.7	23.3	21.8	-6.5%	-6.3%	-5.8	-1.5
CTH E	SB Merge extension	82870	84430	1,560	0.30	**Yes**	**5**	75.5	69.4	20.3	18.0	-8.1%	-11.6%	-6.1	-2.4
CTH N	SB Merge extension	99040	100600	1,560	0.30	**Yes**	**5**	47.1	45.7	13.8	13.2	-3.0%	-4.7%	-1.4	-0.7
CTH S	NB Merge extension	158460	159420	960	0.18	No	4								
			Totals	***7,630***	***1.45***			***212.1***	***198.8***	***57.5***	***53.0***	-6.3%	-7.8%	-13.3	-4.5

Table 3: Difference (Sensitivity Test - Initial Evaluation)

Analysis Segments (Interchange to Interchange)								Total Expected Crashes		Fatal and Injury (FI) Expected Crashes		Percent Differences		Absolute Differences	
												Expected Crashes: (Short-Term - No-Build) / No-Build		Expected Crashes: Short-Term - No-Build	
Improvement Location		Start Station	End Station	Dist (ft)	Dist (mi)	Treated as thru lane?	High-volume hour # of lanes	No-Build	Short-Term Alt	No-Build	Short-Term Alt	Total	FI	Total	FI
STH 47	SB Merge extension	71085	73585	2,500	0.47	Yes	**5**	0.0	-0.9	0.0	-0.4	-1.0%	-1.5%	-0.9	-0.4
CTH E	SB Merge extension	82870	84430	1,560	0.30	**Yes**	**5**	0.0	-6.4	0.0	-2.9	-8.5%	-14.2%	-6.4	-2.9
CTH N	SB Merge extension	99040	100600	1,560	0.30	**Yes**	**5**	0.0	-1.9	0.0	-0.8	-4.0%	-5.5%	-1.9	-0.8
			Totals	***5,620***	***1.06***			***0.0***	***-9.2***	***0.0***	***-4.0***			-9.2	-4.0

I-41 IHSDM Intersection Analysis: Crash Frequency Results (Expected Crashes)

SHORT-TERM BUILD ALTERNATIVE

September 2019 (Draft)

Table 1: 10-Year Totals

Ramp Terminal Intersections		Total Expected Crashes		Fatal and Injury (FI) Expected Crashes		Percent Differences (Short-Term - No-Build) / No-Build	
Improvement Location		No-Build	Short-Term Alt	No-Build	Short-Term Alt	Total	FI
STH 15	SB Ramp Terminal	129.7	128.6	41.8	41.3	-0.9%	-1.0%
CTH E	NB Ramp Terminal	92.3	91.2	34.0	32.9	-1.2%	-3.2%
CTH E	SB Ramp Terminal	156.7	160.9	67.9	68.9	2.7%	1.5%

Notes:

- The CTH BB, STH 125, and STH 96 short-term improvements includes an additional through lanes at both intersections and the STH 15 short-term improvement includes an additional WB thru lane (a look-ahead lane in this case) at the NB ramp terminal intersection. The additional thru lanes change the SPF that would be used, therefore the Empirical Bayes analysis method does not apply.

- These intersections are shown with the Predictive Method Crash Results (see page 2 of this attachment)

Table 2: 10-Year Annual Averages

Ramp Terminal Intersections		Total Expected Crashes		Fatal and Injury (FI) Expected Crashes		Percent Differences (Short-Term - No-Build) / No-Build	
Improvement Location		No-Build	Short-Term Alt	No-Build	Short-Term Alt	Total	FI
STH 15	SB Ramp Terminal	13.0	12.9	4.2	4.1	-0.9%	-1.0%
CTH E	NB Ramp Terminal	9.2	9.1	3.4	3.3	-1.2%	-3.2%
CTH E	SB Ramp Terminal	15.7	16.1	6.8	6.9	2.7%	1.5%

I-41 IHSDM Intersection Analysis: Crash Frequency Results (Predicted Crashes)

SHORT-TERM BUILD ALTERNATIVE

September 2019 (Draft)

Table 1: 10-Year Totals

Ramp Terminal Intersections		Total Predicted Crashes		Fatal and Injury (FI) Predicted Crashes		Percent Differences (Short-Term - No-Build) / No-Build	
Improvement Location		No-Build	Short-Term Alt	No-Build	Short-Term Alt	Total	FI
CTH BB	NB Exit Terminal	38.8	49.2	17.0	23.4	26.8%	37.1%
	NB Entrance Terminal	23.8	29.2	9.9	13.0	22.6%	30.8%
	SB Ramp Terminal	73.7	99.6	24.3	37.2	35.2%	53.4%
STH 125	NB Ramp Terminal	202.0	N/A	77.8	N/A	---	---
	SB Ramp Terminal	97.4	N/A	35.2	N/A	---	---
STH 96	NB Ramp Terminal	143.3	160.6	61.5	71.3	12.1%	16.0%
	SB Ramp Terminal	183.4	204.8	73.4	84.8	11.6%	15.4%
STH 15	NB Ramp Terminal	276.5	310.5	137.0	158.4	12.3%	15.6%

Notes:

- The SPF at STH 96 ranges from 5-lanes (No-Build) to 6-lanes (Short-Term Alt). The SPF trends for this signalized ramp terminal intersection (Type D4) indicate a 12% increase could be anticipated (see HSM Table 19-15). A similar trend occurs at both the STH 15 NB ramp terminal for the proposed look-ahead right-turn lane, increasing the number of thru lanes at the intersection from 4 to 5.

- At the CTH BB ramp terminal intersections, a thru lane is added in each direction at the ramp terminal intersections. HSM Tables 19-13, 19-14, and 19-15 indicate a 22 to 40 percent increase in crashes could be anticipated when increasing the number of thru lanes at an intersection from 4 to 6.

- At STH 125, the Predictive Method is not applicable because the number of thru lanes (7) proposed is beyond the upper limit of crossroad thru lanes for Type D4 for ramp terminal SPFs.

Table 2: 10-Year Annual Averages

Ramp Terminal Intersections		Total Predicted Crashes		Fatal and Injury (FI) Predicted Crashes		Percent Differences (Short-Term - No-Build) / No-Build	
Improvement Location		No-Build	Short-Term Alt	No-Build	Short-Term Alt	Total	FI
CTH BB	NB Exit Terminal	3.9	4.9	1.7	2.3	26.8%	37.1%
	NB Entrance Terminal	2.4	2.9	1.0	1.3	22.6%	30.8%
	SB Ramp Terminal	7.4	10.0	2.4	3.7	35.2%	53.4%
STH 96	NB Ramp Terminal	14.3	16.1	6.1	7.1	12.1%	16.0%
STH 96	SB Ramp Terminal	18.3	20.5	7.3	8.5	11.6%	15.4%
STH 15	NB Ramp Terminal	27.6	31.1	13.7	15.8	12.3%	15.6%

ATTACHMENT Q
LONG-TERM BUILD ALTERNATIVE CRASH PREDICTION RESULTS

I-41 IHSDM Analysis: Crash Frequency Results Comparison No-Build vs. Long-Term Alt (2028-2037)

DRAFT

August 8, 2019

Percent difference highlighting:

< -1% | -1% to +1% | > +1%

Table 1: No-Build (Predicted) vs. Long-Term Alt (Predicted)

Existing Median Barrier covers ~60% of corridor

Analysis Segments							Total Crashes		Fatal and Injury (FI) Crashes		Property Damage Only (PDO) Crashes		Percent Differences		
													Long-Term vs. No-Build		
Seg #	Start Station	End Station	Dist (mi)	Station Locations		Location vs. Interchanges	No-Build Predicted	Long-Term Predicted	No-Build Predicted	Long-Term Predicted	No-Build Predicted	Long-Term Predicted	Total	FI	PDO
1	39200	53625	2.7	Southern Limit	STH 96	South of CTH BB to STH 96	497.8	504.4	149.4	151.7	348.5	352.7	1.3%	1.5%	1.2%
2	53625	66800	2.5	STH 96	Lyndale Dr	STH 96 to North of STH 15	432.2	426.5	134.8	130.0	297.4	296.5	-1.3%	-3.6%	-0.3%
3	66800	80000	2.5	Lyndale Dr	Meade St	North of STH 15 to West of CTH E	445.1	455.9	140.7	132.6	304.3	323.3	2.4%	-5.8%	6.2%
	80000	96320	3.1	Meade St	Holland Rd		506.0	388.8	158.8	115.3	347.2	273.5	-23.2%	-27.4%	-21.2%
4	80600	94659	2.7	Westbound C-D Road		West of CTH E to East of STH 441	---	144.7	---	44.2	---	100.5	---	---	---
	80000	96320	3.1	Mainline + Westbound C-D Road			506.0	533.4	158.8	159.5	347.2	374.0	5.4%	0.4%	7.7%
5	96320	108170	2.2	Holland Rd	Rose Hill Rd	East of STH 441 to West of STH 55	318.9	333.9	98.7	94.1	220.2	239.8	4.7%	-4.7%	8.9%
6	108170	125080	3.2	Rose Hill Rd	CTH JJ	West of STH 55 to East of CTH J	418.3	415.8	131.9	122.8	286.4	293.0	-0.6%	-6.9%	2.3%
7	125080	141090	3.0	CTH JJ	CTH U	East of CTH J to CTH U (County Line)	315.3	346.8	93.3	93.5	222.0	253.3	10.0%	0.2%	14.1%
8	141090	152050	2.1	CTH U	Williams Grant Dr	CTH U (County Line) to South of CTH S	219.3	240.2	63.4	62.4	155.9	177.9	9.5%	-1.6%	14.1%
9	152050	161270	1.7	Williams Grant Dr	Little Rapids Rd	South of CTH S to North of CTH S	191.1	204.3	56.9	55.4	134.2	148.8	6.9%	-2.6%	10.9%
10	161270	173657	2.3	Little Rapids Rd	Northern Limit	North of CTH S to South of CTH F	256.7	280.0	74.2	72.3	182.5	207.7	9.1%	-2.6%	13.8%
		Totals	*25.5*				*3,600.7*	*3,741.1*	*1,102.1*	*1,074.2*	*2,498.6*	*2,666.9*	3.9%	-2.5%	6.7%

Table 1 Subtotals

39200	66800	5.2	Southern Limit to Lyndale Dr	South of CTH BB to North of STH 15	930.1	930.9	284.2	281.7	645.8	649.3	0.1%	-0.9%	0.5%
66800	96320	5.6	Lyndale Dr to Holland Rd	North of STH 15 to East of STH 441	951.0	989.3	299.5	292.1	651.5	697.2	4.0%	-2.5%	7.0%
96320	141090	8.5	Holland Rd to CTH U (Brown Co)	East of STH 441 to CTH U (Brown Co)	1,052.5	1,096.4	323.9	310.4	728.6	786.0	4.2%	-4.2%	7.9%
141090	173657	6.2	CTH U to Northern Limit	CTH U to South of CTH F	667.1	724.5	194.5	190.1	472.6	534.4	8.6%	-2.2%	13.1%

Note: *All crash results are shown as 10-year totals (2028-2037)*

I-41 IHSDM Analysis: Crash Frequency Results Comparison No-Build vs. Long-Term Alt (2028-2037)

DRAFT

August 8, 2019

Percent difference highlighting:

< -1% | -1% to +1% | > +1%

Table 2: No-Build_Barrier Test (Predicted) vs. Long-Term Alt (Predicted)

Existing Median Barrier covers ~99% of corridor

Analysis Segments							Total Crashes		Fatal and Injury (FI) Crashes		Property Damage Only (PDO) Crashes		Percent Differences		
													Long-Term vs. No-Build		
Seg #	Start Station	End Station	Dist (mi)	Station Locations		Location vs. Interchanges	No-Build Predicted	Long-Term Predicted	No-Build Predicted	Long-Term Predicted	No-Build Predicted	Long-Term Predicted	Total	FI	PDO
1	39200	53625	2.7	Southern Limit	STH 96	South of CTH BB to STH 96	497.8	504.4	149.4	151.7	348.5	352.7	1.3%	1.5%	1.2%
2	53625	66800	2.5	STH 96	Lyndale Dr	STH 96 to North of STH 15	442.2	426.5	137.0	130.0	305.1	296.5	-3.5%	-5.1%	-2.8%
3	66800	80000	2.5	Lyndale Dr	Meade St	North of STH 15 to West of CTH E	461.4	455.9	144.6	132.6	316.8	323.3	-1.2%	-8.3%	2.0%
	80000	96320	3.1	Meade St	Holland Rd		524.0	388.8	162.9	115.3	361.1	273.5	-25.8%	-29.2%	-24.3%
4	80600	94659	2.7	Westbound C-D Road		West of CTH E to East of STH 441	---	144.7	---	44.2	---	100.5	---	---	---
	80000	96320	3.1	Mainline + Westbound C-D Road			524.0	533.4	162.9	159.5	361.1	374.0	1.8%	-2.1%	3.6%
5	96320	108170	2.2	Holland Rd	Rose Hill Rd	East of STH 441 to West of STH 55	331.0	333.9	101.3	94.1	229.7	239.8	0.9%	-7.1%	4.4%
6	108170	125080	3.2	Rose Hill Rd	CTH JJ	West of STH 55 to East of CTH J	433.2	415.8	135.1	122.8	298.2	293.0	-4.0%	-9.1%	-1.7%
7	125080	141090	3.0	CTH JJ	CTH U	East of CTH J to CTH U (County Line)	325.6	346.8	94.9	93.5	230.7	253.3	6.5%	-1.4%	9.8%
8	141090	152050	2.1	CTH U	Williams Grant Dr	CTH U (County Line) to South of CTH S	226.4	240.2	64.4	62.4	162.0	177.9	6.1%	-3.2%	9.8%
9	152050	161270	1.7	Williams Grant Dr	Little Rapids Rd	South of CTH S to North of CTH S	197.6	204.3	57.9	55.4	139.6	148.8	3.4%	-4.3%	6.6%
10	161270	173657	2.3	Little Rapids Rd	Northern Limit	North of CTH S to South of CTH F	265.8	280.0	75.6	72.3	190.2	207.7	5.3%	-4.3%	9.2%
		Totals	*25.5*				*3,705.0*	*3,741.1*	*1,123.1*	*1,074.2*	*2,581.9*	*2,666.9*	1.0%	-4.4%	3.3%

Table 2 Subtotals

39200	66800	5.2	Southern Limit to Lyndale Dr	South of CTH BB to North of STH 15	940.0	930.9	286.4	281.7	653.6	649.3	-1.0%	-1.7%	-0.7%
66800	96320	5.6	Lyndale Dr to Holland Rd	North of STH 15 to East of STH 441	985.4	989.3	307.5	292.1	677.8	697.2	0.4%	-5.0%	2.9%
96320	141090	8.5	Holland Rd to CTH U (Brown Co)	East of STH 441 to CTH U (Brown Co)	1,089.9	1,096.4	331.3	310.4	758.6	786.0	0.6%	-6.3%	3.6%
141090	173657	6.2	CTH U to Northern Limit	CTH U to South of CTH F	689.8	724.5	197.9	190.1	491.9	534.4	5.0%	-4.0%	8.7%

Note: *All crash results are shown as 10-year totals (2028-2037)*

I-41 IHSDM Analysis: Crash Frequency Results Comparison No-Build vs. Long-Term Alt (2028-2047)

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August 8, 2019

Percent difference highlighting:

< -1% | -1% to +1% | > +1%

Table 1: No-Build (Predicted) vs. Long-Term Alt (Predicted)

Existing Median Barrier covers ~60% of corridor

Analysis Segments							Total Crashes		Fatal and Injury (FI) Crashes		Property Damage Only (PDO) Crashes		Percent Differences		
													Long-Term vs. No-Build		
Seg #	Start Station	End Station	Dist (mi)	Station Locations		Location vs. Interchanges	No-Build Predicted	Long-Term Predicted	No-Build Predicted	Long-Term Predicted	No-Build Predicted	Long-Term Predicted	Total	FI	PDO
1	39200	53625	2.7	Southern Limit	STH 96	South of CTH BB to STH 96	1,041.7	1,072.2	312.4	322.2	729.3	750.0	2.9%	3.1%	2.8%
2	53625	66800	2.5	STH 96	Lyndale Dr	STH 96 to North of STH 15	921.7	935.2	287.0	284.0	634.8	651.2	1.5%	-1.0%	2.6%
3	66800	80000	2.5	Lyndale Dr	Meade St	North of STH 15 to West of CTH E	953.2	1,005.6	300.5	291.3	652.6	714.4	5.5%	-3.1%	9.5%
	80000	96320	3.1	Meade St	Holland Rd		1,070.2	851.3	335.0	251.4	735.2	599.9	-20.5%	-24.9%	-18.4%
4	80600	94659	2.7	Westbound C-D Road		West of CTH E to East of STH 441	---	315.3	---	98.3	---	217.1	---	---	---
	80000	96320	3.1	Mainline + Westbound C-D Road			1,070.2	1,166.6	335.0	349.7	735.2	816.9	9.0%	4.4%	11.1%
5	96320	108170	2.2	Holland Rd	Rose Hill Rd	East of STH 441 to West of STH 55	670.1	735.8	207.5	208.2	462.6	527.6	9.8%	0.4%	14.1%
6	108170	125080	3.2	Rose Hill Rd	CTH JJ	West of STH 55 to East of CTH J	877.5	910.3	276.0	269.3	601.6	641.1	3.7%	-2.4%	6.6%
7	125080	141090	3.0	CTH JJ	CTH U	East of CTH J to CTH U (County Line)	658.1	748.1	193.8	202.2	464.3	545.9	13.7%	4.3%	17.6%
8	141090	152050	2.1	CTH U	Williams Grant Dr	CTH U (County Line) to South of CTH S	458.8	519.6	132.6	135.1	326.2	384.4	13.2%	1.9%	17.8%
9	152050	161270	1.7	Williams Grant Dr	Little Rapids Rd	South of CTH S to North of CTH S	399.7	442.2	118.9	120.2	280.8	322.0	10.6%	1.1%	14.7%
10	161270	173657	2.3	Little Rapids Rd	Northern Limit	North of CTH S to South of CTH F	536.2	607.6	155.1	157.8	381.0	449.8	13.3%	1.7%	18.0%
		Totals	*25.5*				*7,587.0*	*8,143.2*	*2,318.7*	*2,339.9*	*5,268.3*	*5,803.3*	7.3%	0.9%	10.2%

Table 1 Subtotals

39200	66800	5.2	Southern Limit to Lyndale Dr	South of CTH BB to North of STH 15	1,963.4	2,007.4	599.3	606.2	1,364.1	1,401.2	2.2%	1.1%	2.7%
66800	96320	5.6	Lyndale Dr to Holland Rd	North of STH 15 to East of STH 441	2,023.3	2,172.2	635.6	641.0	1,387.8	1,531.3	7.4%	0.8%	10.3%
96320	141090	8.5	Holland Rd to CTH U (Brown Co)	East of STH 441 to CTH U (Brown Co)	2,205.7	2,394.2	677.2	679.7	1,528.5	1,714.6	8.5%	0.4%	12.2%
141090	173657	6.2	CTH U to Northern Limit	CTH U to South of CTH F	1,394.6	1,569.3	406.6	413.1	988.0	1,156.2	12.5%	1.6%	17.0%

Note: *All crash results are shown as 20-year totals (2028-2047)*

I-41 IHSDM Analysis: Crash Frequency Results Comparison No-Build vs. Long-Term Alt (2028-2047)

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August 8, 2019

Percent difference highlighting:

< -1% | -1% to +1% | > +1%

Table 2: No-Build_Barrier Test (Predicted) vs. Long-Term Alt (Predicted)

Existing Median Barrier covers ~99% of corridor

Analysis Segments							Total Crashes		Fatal and Injury (FI) Crashes		Property Damage Only (PDO) Crashes		Percent Differences		
													Long-Term vs. No-Build		
Seg #	Start Station	End Station	Dist (mi)	Station Locations		Location vs. Interchanges	No-Build Predicted	Long-Term Predicted	No-Build Predicted	Long-Term Predicted	No-Build Predicted	Long-Term Predicted	Total	FI	PDO
1	39200	53625	2.7	Southern Limit	STH 96	South of CTH BB to STH 96	1,041.7	1,072.2	312.4	322.2	729.3	750.0	2.9%	3.1%	2.8%
2	53625	66800	2.5	STH 96	Lyndale Dr	STH 96 to North of STH 15	943.2	935.2	291.8	284.0	651.4	651.2	-0.8%	-2.7%	0.0%
3	66800	80000	2.5	Lyndale Dr	Meade St	North of STH 15 to West of CTH E	988.3	1,005.6	309.0	291.3	679.3	714.4	1.8%	-5.7%	5.2%
4	80000	96320	3.1	Meade St	Holland Rd	West of CTH E to East of STH 441	1,108.5	851.3	343.9	251.4	764.5	599.9	-23.2%	-26.9%	-21.5%
	80600	94659	2.7	Westbound C-D Road			---	315.3	---	98.3	---	217.1	---	---	---
	80000	96320	3.1	Mainline + Westbound C-D Road			1,108.5	1,166.6	343.9	349.7	764.5	816.9	5.2%	1.7%	6.9%
5	96320	108170	2.2	Holland Rd	Rose Hill Rd	East of STH 441 to West of STH 55	695.6	735.8	213.1	208.2	482.5	527.6	5.8%	-2.3%	9.4%
6	108170	125080	3.2	Rose Hill Rd	CTH JJ	West of STH 55 to East of CTH J	909.1	910.3	282.8	269.3	626.3	641.1	0.1%	-4.8%	2.4%
7	125080	141090	3.0	CTH JJ	CTH U	East of CTH J to CTH U (County Line)	679.7	748.1	197.1	202.2	482.6	545.9	10.1%	2.6%	13.1%
8	141090	152050	2.1	CTH U	Williams Grant Dr	CTH U (County Line) to South of CTH S	473.7	519.6	134.8	135.1	338.9	384.4	9.7%	0.2%	13.4%
9	152050	161270	1.7	Williams Grant Dr	Little Rapids Rd	South of CTH S to North of CTH S	413.2	442.2	121.2	120.2	292.0	322.0	7.0%	-0.8%	10.3%
10	161270	173657	2.3	Little Rapids Rd	Northern Limit	North of CTH S to South of CTH F	555.3	607.6	158.1	157.8	397.2	449.8	9.4%	-0.2%	13.2%
		Totals	*25.5*				*7,808.2*	*8,143.2*	*2,364.1*	*2,339.9*	*5,444.1*	*5,803.3*	4.3%	-1.0%	6.6%

Table 2 Subtotals

39200	66800	5.2	Southern Limit to Lyndale Dr	South of CTH BB to North of STH 15	1,984.9	2,007.4	604.1	606.2	1,380.7	1,401.2	1.1%	0.3%	1.5%
66800	96320	5.6	Lyndale Dr to Holland Rd	North of STH 15 to East of STH 441	2,096.8	2,172.2	652.9	641.0	1,443.8	1,531.3	3.6%	-1.8%	6.1%
96320	141090	8.5	Holland Rd to CTH U (Brown Co)	East of STH 441 to CTH U (Brown Co)	2,284.3	2,394.2	692.9	679.7	1,591.4	1,714.6	4.8%	-1.9%	7.7%
141090	173657	6.2	CTH U to Northern Limit	CTH U to South of CTH F	1,442.2	1,569.3	414.0	413.1	1,028.2	1,156.2	8.8%	-0.2%	12.5%

Note: *All crash results are shown as 20-year totals (2028-2047)*